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THE PLANT DISEASE BULLETIN

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THE PLANT DISEASE SURVEY

Supplement 29

Diseases of Forest and Shade Trees, Ornamental and Miscellaneous Plants In the United States in 1922

August 1, 1923

BUREAU OF PLANT INDUSTRY
UNITED STATES DEPARTMENT OF AGRICULTURE

PLANT DISEASE SURVEY

1922

List of collaborators of the Plant Disease Survey who have made the principal contribution to the 1922 annual summary.

It should be understood that many other collaborators and pathologists have assisted in gathering data within the States but the following list includes those who actually furnished state reports to the Washington office.

Alabama	W. A. Gardner
Arizona	J. G. Brown
	D. C. George
Arkansas	J. A. Elliott
California	J. T. Barrett
	W. T. Horne
	W. S. Fields
Colorado	C. D. Learn
	Ellsworth Bethel
Connecticut	G. P. Clinton
Delaware	J. F. Adams
Florida	O. F. Burger
Georgia	T. H. McHatton
Idaho	C. W. Hungerford
	Henry Schmitz
Illinois	H. W. Anderson
	L. R. Tehon
Indiana	M. W. Gardner
Iowa	I. E. Melhus
Kansas	L. E. Melchers
	R. F. White
Kentucky	W. D. Valleau
Louisiana	C. W. Edgerton
Maine	W. J. Morse
Maryland	C. E. Temple
	R. A. Jehle
Massachusetts	A. V. Osmun
	P. J. Anderson
Michigan	G. H. Coons
Minnesota	Sect. Plant Path.
Mississippi	D. C. Neal
Missouri	E. F. Hopkins
Montana	H. M. Jennison
	D. B. Swingle
	W. N. Christopher
Nebraska	R. W. Goss
Nevada	C. W. Lantz
New Hampshire	O. Butler
New Jersey	M. T. Cook
New York	Charles Chupp
	L. M. Massey
	R. S. Kirby
North Carolina	L. E. Yocum
	A. C. Foster
North Dakota	H. L. Bolley
	Wanda Weinger
Ohio	A. D. Selby
	R. C. Thomas
	Freda Detmers
Oklahoma	Robert Stratton
Oregon	H. P. Barss
	S. M. Zeller
	C. E. Owens
Pennsylvania	C. R. Orton
	H. W. Thurston
	L. O. Overholtz
Rhode Island	H. W. Browning
	W. A. Snell
South Carolina	C. A. Ludwig
South Dakota	E. J. Petry
	A. T. Evans
Tennessee	L. R. Hesler
Texas	J. J. Taubenhaus
Utah	B. L. Richards
Vermont	B. F. Lutman
Virginia	F. D. Fromme
Washington	F. D. Heald
	B. F. Dana
	Arthur Frank
West Virginia	N. J. Giddings
	E. C. Sherwood
	Anthony Berg
Wisconsin	R. E. Vaughan
Wyoming	Aven Nelson

DISEASES OF FOREST AND SHADE TREES, ORNAMENTAL AND MISCELLANEOUS PLANTS IN THE UNITED STATES IN 1922

Prepared by
G. Hamilton Martin, Jr.

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Foreword

This summary on the diseases of forest and shade trees, ornamental and miscellaneous plants in the United States in 1922 follows the same general plan as those of the preceding years. The sources upon which the information is based were as follows: (1) collaborators, (2) specialists in the Office of Forest Pathology, (3) articles in botanical journals, and (4) special reporters.

Owing to the lack of more available data it has been found necessary to present the information in list form, as usually only scattered notes on the distribution and extent of the disease have been furnished.

References have been given and in some instances brief abstracts made of recent articles which might be of service to those who do not have access to all the botanical journals. A list of collaborators is given on the opposite page. The names of the special reporters are as follows:

Bonar, Lee
Boyce, J. S.
Collins, J. Franklin
Detwiler, S. B.
Dunegan, J. C.
Fields, A. O.
Gravatt, Arthur H.
Hedgcock, G. G. & N. Rex Hunt
Henn, Adam G.
Howard, N. O.
Hubert, Ernest E.
Martin, G. H., Jr.
Metcalf, W.
PHN5 = Pathological Herbarium (Notes Number 5)
Scherer, C. M.
Sheldon, John L.
Young, V. H.
Young, W. H.

DISEASES OF CONIFERS

ARBORVITAE (Thuja occidentalis)

Phomopsis juniperovora Hahn

Pennsylvania - State College, June 2. Coll. L. O. Overholts. (PHN 5)

Wood rot caused by Poria vaporaria (Fr.) Cke.

Minnesota - (Sect. Pl. Path.)

ARBORVITAE, GIANT (Thuja plicata)

Cedar leaf blight caused by Keithia thujina Durand

Idaho - this disease tends toward becoming very serious; found in stands of young western red cedar in northern Idaho (Schmitz)

Washington - northeastern part of state, this disease causes the trees to appear often as if swept by fire. (Schmitz)

The parasite is widespread, common and principally attacks small trees. (Boyce)

Reference

Miles, A. C. Keithia on Thuja plicata Gard. Chron. III, 72: 353. Dec. 16, 1922.

Red brown heartwood butt rot caused by Polyporus schweinitzii Fr.

Idaho - not common. (Schmitz)

Coryneum juniperinum Ell.

Oregon - occasional; apparently parasitic but not certain. (Boyce)

CEDAR, YELLOW (Chamaecyparis nootkatensis)

Rust caused by Gymnosporangium nootkatensis (Trel.) Arth.

Washington - causes little damage to the leaves of young trees. (Boyce)

CEDAR, WHITE (Chamaecyparis thyoides)

Rust caused by Gymnosporangium ellisii (Berk.) Farl.

Connecticut - first collection in state by Connecticut Agr. Exp. Sta.; quite abundant in this swamp; aecial stage reported by Fromme in the state but not yet collected by Clinton. (Clinton)

Rhode Island - found for first time; it is disfiguring many trees by the fusiform galls; some branches are dead and some smaller trees are dead, apparently from this cause. (Snell & Howard)

Rust caused by Gymnosporangium botryapites (Schw.) Kern = (G. biseptatum Ell.)

Connecticut - New Haven County; two reports. (Clinton)

FIR, SILVER (Abies amabilis)

Fir-fern rust caused by Uredinopsis mirabilis (Pk.) Magn.

Washington - causes death of infected needles; normally on young trees does slight damage. (Boyce)

Butt rot caused by Fomes annosus (Fr.) Cke.

Washington - found occasionally in living trees; infected trees are susceptible to windthrow. (Boyce)

FIR, BALSAM (Abies balsamea)

Fir-fern rust caused by Uredinopsis mirabilis (Pk.) Magn.
Pennsylvania - severe; local; on Osmunda claytoniana at least 8 miles from any known possible Abies; infection abundant on one local area. August 19. (Overholts)

Douglas fir blight caused by Phomopsis pseudotsugae Wilson
See quotation Douglas fir.

FIR, LOWLAND (Abies grandis)

Needle-cast caused by Lophodermium nervisequium Hart.
Idaho - common; the resulting damage, as a rule, is slight. (Boyce)

Stringy brown rot caused by Echinodontium tinctorium Ell. & Ev.
Idaho - very common wherever this tree occurs; causes a serious heart rot. (Schmitz)

Very destructive in some localities, nearly all mature trees being more or less decayed. (Boyce)

Fir-fern rust caused by Uredinopsis mirabilis (Pk.) Magn.
Idaho, British Columbia - kills infected needles; usually on small trees; damage slight. (Boyce)

Red brown sapwood rot caused by Fomes pinicola (Fr.) Cke.
Idaho - fairly common. (Schmitz)

Matting caused by Herpotrichia nigra Hart.
Idaho - common at high altitudes. (Schmitz)

Macrophoma parca B. & Br.
Oregon -(Boyce)

FIR, ALPINE (Abies lasiocarpa)

Matting caused by Herpotrichia nigra Hart.
Idaho - common at the higher altitudes. (Schmitz)

FIR, VEITCH'S (Abies veitchii)

Fusicoccum abietinum (Hart.) Prill. & Del. = (Phoma abietina Hart.)
Ohio - local; causes death of twigs and needles. Oct. 24. (Young)

FIR, DOUGLAS (Pseudotsuga taxifolia)

Red brown heartwood butt rot caused by Polyporus schweinitzii Fr.
Idaho - common. (Schmitz)

Red rot caused by Trametes pini (Brot.) Fr.
Idaho - fairly common. (Schmitz)

Red brown sapwood rot caused by Fomes pinicola Fr.
Idaho - found in dead trees, causing a saprot. (Schmitz)

Rot caused by Polyporus volvatus Pk.
Idaho - common. (Schmitz)

Douglas fir mistletoe, Razoumofskya douglasii (Engelm.) Kuntze
Idaho, Washington, Oregon. (Boyce)

Is a very serious parasite. (Boyce)

Douglas fir blight caused by Phomopsis pseudotsugae Wilson

The following quotation concerning this serious European disease that is now threatening the United States is taken from a recent article by J. S. Boyce. (A menace to Douglas fir and hemlock. Timberman, July, 1922):

"Of late years in Scotland and England a parasitic fungus (Phomopsis pseudotsugae) has been found attacking young Douglas firs in the sapling stage. The disease is becoming increasingly severe each year and is now a source of considerable concern to foresters and pathologists in those countries. The fungus attacks the main stem, either killing the tree outright or causing the death of the top, greatly retarding growth. The disease spreads directly from infested trees to sound ones, thus making it very difficult to control.

"An idea of the damage resulting is given by Dr. Malcolm Wilson, of the University of Edinburgh, who states: 'A plantation of Douglas fir in Perthshire, about 6 to 8 years old, was examined in April of this year (1920), and it was estimated that half of the trees had been killed by the disease. The dead trees were removed and burnt and the spaces were filled up by planting fresh trees. In September about 20 per cent of the trees were showing signs of attack, and these included some of those planted in the previous April.' Again the same authority writes: 'Owing to the long period which elapses between infection and the first obvious signs of the disease, it is possible that nursery stock which is apparently healthy, although really diseased, may be planted out, and in this way the disease may be widely distributed.'

"The parasite has recently been found in Scotland attacking Japanese larch (Larix leptolepis) and hemlock (Tsuga albertiana).

"If this disease is introduced anywhere into the Douglas fir regions of North America a widespread, disastrous and probably uncontrollable epidemic may quite possibly result. It is axiomatic that parasites of little importance in their native haunts often become exceedingly destructive when introduced into other regions. This particular fungus threatens the two most important timber trees in the Pacific Northwest, together with a third so-called 'inferior' species, Western larch (Larix occidentalis), which as time goes on will become increasingly valuable. It is also quite probable that this parasite will attack balsam firs."

HEMLOCK (Tsuga canadensis)
Leaf rust caused by Pucciniastrum myrtilli (Schum.) Arth. = (Peridermium peckii Thuem.)
Pennsylvania - seems to be more abundant than last year. (Overholts)

HEMLOCK, WESTERN (Tsuga heterophylla)
Stringy brown rot caused by Echinodontium tinctorium Ell. & Ev.
Idaho, Oregon (Boyce)

The most destructive decay of hemlock; where infection is severe practically every mature tree is affected. (Boyce)

Ring scale rot caused by Trametes pini (Thore) Fr.
Washington (Boyce)

Butt rot caused by Fomes annosus (Fr.) Cke.
Washington (Boyce)

Occasionally attacks hemlock. (Boyce)

Dimerium sp.
Washington - not on needles of the season; immature on 1920 needles, mature on 1919 needles. (Boyce)

Douglas fir blight caused by Phomopsis pseudotsugae Wilson
See quotation under Douglas fir.

HEMLOCK (Tsuga albertiana)
Douglas fir blight caused by Phomopsis pseudotsugae Wilson

See quotation under Douglas fir.

HEMLOCK (Tsuga spp.)
Leaf, cone, and twig rust caused by Melampsora abietis-canadensis (Farl.) Ludwig = (Caeoma abietis-canadensis Farl.)
Connecticut - aecial stage on cones of the hemlocks was more abundant than I had ever seen it; have seen twigs with most of the cones and young twigs conspicuously infected, however, the Melampsora stage on the Populus was not as common as usual. (Clinton)

Rust, caused by Pucciniastrum myrtilli (Schum.) Arth. = (Peridermium peckii Thuem.)
Connecticut - becoming more prevalent; reported from four western counties. (Clinton)

JUNIPER, COMMON (Juniperus communis var. hemisphaerica)
Pestalozzia funerea Desm.
District of Columbia (Collins)

JUNIPER, WESTERN (Juniperus occidentalis)
Rust caused by Gymnosporangium harknessianum (E. & E.) Kern
Oregon - little injury caused by this parasite to host. (Boyce)

Rust caused by Gymnosporangium juvenescens Kern
Oregon - causes little injury to host. (Boyce)

Rust caused by Gymnosporangium kernianum Bethel
Oregon - sometimes found; causes little or no injury to host. (Boyce)

Hormodendron pinophilum (Ness) Lindau.
Oregon - common. (Boyce)

JUNIPER, ROCKY MOUNTAIN (Juniperus scopulorum)
Rust caused by Gymnosporangium nelsoni Arth.
British Columbia - Fort Steele Oct. 9. (Boyce)

JUNIPER (Juniperus virginiana)
Rust caused by Gymnosporangium juniperi-virginianae Schw.
Rhode Island - galls on red cedar were not only very abundant in the spring of 1922 but very large with unusually long horns; some of the galls with the horns were as large as, small to medium sized apples, a little smaller than a man's closed fist. (Snell)
Connecticut - general in distribution; common but not serious. (Clinton)
Delaware - generally distributed, cedar apple galls fruited very abundantly and weather conditions favorable to produce heavy infection on apple. (Adams)
Ohio - most marked in southern Ohio and extreme northern portion of state. (Thomas)
Illinois - less than usual; prevalent largely in southern part of state, reported especially in Whiteside County on Mississippi bluffs. (Tehon)

Rust caused by Gymnosporangium germinale (Schw.) Kern = (G. clavipes Cke. & Peck)
Massachusetts - (Collins)
Connecticut - local. (Clinton)
Delaware - more prevalent than in former years. (Adams)

Reference:
Dodge, B. O. Studies in the genus Gymnosporangium. IV. Distribution of the mycelium and the subcuticular origin of the telium in G. clavipes. Amer. Journ. Bot. 9: 354-365. July 1922.

Rust caused by Gymnosporangium sp.
Vermont - very prevalent. (Lutman)

JUNIPER (Juniperus sp.)
Pestalozzia funerea Desm.
South Carolina-(Collins)

LARCH, WESTERN (Larix occidentalis)
Brown trunk rot caused by Fomes officinalis Fr. (F. laricis (Jacq.) Murr.)
Idaho - quite common, causing considerable loss. (Schmitz)

Needle cast caused by Hypodermella laricis Tub.
Idaho - especially severe in northern Idaho during 1922; smaller trees were sometimes almost completely defoliated by early summer, which cannot but help to decrease the rate of growth, and, without doubt, the disease is more important than is usually considered. (Schmitz) Reported also by Boyce.

Oregon - an epidemic occurred in the Ochoco Mountains near Mitchell, Wheeler County, July 27, where, in an area of infection, the trees were almost defoliated. (Boyce)

Larch mistletoe - Razoumofskya laricis Piper
Idaho - very common in certain localities throughout range of host in state. (Schmitz)
Oregon - is very destructive. (Boyce)

Ring scale rot caused by Trametes pini (Brot.) Fr.
Idaho - occasionally found. (Schmitz)
Results in heavy loss in merchantable stands. (Boyce)

Red brown heartwood butt rot caused by Polyporus schweinitzii Fr.
Idaho - fairly common. (Schmitz)

Sulphur heart rot caused by Polyporus sulphureus (Bull.) Fr.
Idaho - has been collected on larch in northern Idaho several times during past seasons. (Schmitz)

Douglas fir blight caused by Phomopsis pseudotsugae Wilson.

See quotation under Douglas fir.

LARCH, JAPANESE (Larix leptolepsis)
Douglas fir blight caused by Phomopsis pseudotsugae Wilson

See quotation under Douglas fir.

PINE, SLASH OR SWAMP (pinus caribaea)
Rust caused by Coleosporium delicatulum (Arth. & Kern.) Hedgc. & Long.
Florida and Louisiana (Hedgc. & Hunt)

PINE, LODGEPOLE (Pinus contorta)
Needle cast caused by Lophodermium pinastri (Schrad.) Chev.
British Columbia - usually attacks the older needles; quite common but of little economic importance except when epidemic. (Boyce)

Rust caused by Cronartium comptoniae Arth. = (Peridermium comptoniae (Arth.) Orton and Adams)
Connecticut - new host for the state; Coscob, Fairfax County, June 13; partly responsible for killing out a young plantation. (Clinton)

Western fusiform rust caused by Cronartium filamentosum (Pk.) Hedgc. & Long.
Oregon - common locally; sometimes kills small trees. (Boyce)

Western pine gall rust caused by Cronartium harknessii. (Moore) Meinecke
Idaho - very common in many localities; often galls will be found occurring in great numbers on individual trees. (Schmitz)
Oregon, British Columbia - quite common; infection of galls and witches brooms. (Boyce)

Lodgepole pine mistletoe - Razoumofskya americana (Nutt.) Kuntz
Idaho - (Boyce and Schmitz), Oregon (Boyce)
Reduces the growth of all infected trees and causes huge witches brooms. (Boyce)
Red brown heartwood butt rot caused by Polyporus schweinitzii Fr.
Idaho - common on older trees. (Schmitz)

Needle blight caused by Hypoderma deformans Weir
Oregon - occasionally parasitic. (Boyce)

Lophodermella montivaga Petrák
Oregon - parasitic, almost defoliating the trees; abundant locally. (Boyce)

Stillospora pinicola B. & C.
Oregon - abundant; parasitic on the older needles. (Boyce)

PINE, JACK (Pinus divaricata) . = (P. banksiana)

Rust caused by Coleosporium helianthi (Schw.) Arth.
Michigan - (Hedgc. & Hunt)
Rust caused by Cronartium cerebrum (Pk.) Hedgc. & Long
Minnesota - (Sect. Pl. Path.)

PINE, SHORT LEAF (Pinus echinata)

Rusts caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long = (Peridermium delicatulum (Arth. & Kern) Hedgc. & Long)
Pennsylvania, Maryland and South Carolina. (Hedgc. & Hunt)

Coleosporium helianthi (Schw.) Arth. = (Peridermium helianthi (Schw.) Hedgc. & Hunt)
Georgia - (Hedgc. & Hunt)

Coleosporium inconspicuum (Long) Hedgc. & Long
Georgia and North Carolina (Hedgc. & Hunt)

Coleosporium terebinthinaceae (Schw.) = (Peridermium terebinthinaceae (Schw.) Hedgc. & Hunt)
North Carolina, South Carolina, Georgia, and Alabama. (Hedgc. & Hunt)

Coleosporium vernoniae B. & C. = (Peridermium carneum (Basc.) Seym. & Earle)
Delaware - more prevalent than in the average year; very prevalent on young seedlings. (Adams)

PINE, SUGAR (Pinus lambertiana)

Needle cast caused by Lophodermium pinastri (Schrad.) Chev.
Oregon - frequent. (Boyce)

PINE, ARIZONA LONG-LEAF (Pinus mayriana)

Rust caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long
District of Columbia (Hedgc. & Hunt)

PINE, WESTERN WHITE (Pinus monticola)

White pine blister rust caused by Cronartium ribicola Fisch

Idaho - not found in the state, after a quite extensive scouting season. (Schmitz)

Washington - during the summer of 1922 white pine blister rust was found on Ribes in the following counties of western Washington: San Juan, Island, Whatcom, Skagit, King, Pierce, Clallam, Jefferson, Kitsap, Mason, Grays Harbor and Pacific; the disease up to the fall of 1922 had not been found on pines except a single canker of 1917 origin at Blaine, near the international line in Whatcom County, and two small pines in a nursery at Mt. Vernon in Skagit County. (Detwiler)

Needle cast caused by Lophodermium pinastri (Schrad.) Chev.

Washington - is usually saprophytic on this host but sometimes becomes parasitic; little damage resulting. (Boyce)

Ring scale rot caused by Trametes pini (Thore) Fr.

Idaho - very common. (Schmitz)

Very destructive in over-mature stands. (Boyce)

Yellow root rot caused by Sparassis radicata Weir

Idaho - (Schmitz)

PINE, AUSTRIAN (Pinus nigra var. austriaca)

Sphaeropsis sp.

New York - (Collins)

PINE, CORSICAN (Pinus nigra poiretiana)

Rust caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long

Pennsylvania - (Hedgc. & Hunt)

PINE, LONG LEAF (Pinus palustris)

Rusts caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long.

South Carolina, Georgia, Florida, and Mississippi. (Hedgc. & Hunt)

Coleosporium inconspicuum (Long) Hedgc. & Long

South Carolina (Hedgc. & Hunt)

Coleosporium terebinthinaceae (Schw.) Arth.

South Carolina (Hedgc. & Hunt)

PINE, WESTERN YELLOW (Pinus ponderosa)

Needle cast and witches broom caused by Hypoderma deformans Weir

Washington, British Columbia - trees of all ages are attacked; the increment of infected trees is lessened. (Boyce)

Pine commandra rust caused by Cronartium pyriforme (Pk.) H. & L.

Washington, Oregon - This rust is locally destructive but the total damage is limited due to the fact that the alternate host commandra is not widespread; kills young trees. (Boyce)

Western pine gall rust caused by Cronartium harknessii (Moore) Meinecke

Idaho - fairly common but does not seem to do a great amount of damage to western yellow pine. (Schmitz)

British Columbia - causes galls and small witches brooms on infected trees. (Boyce)

Heart rot caused by Fomes laricis (Jacq.) Murr.

Washington - may extend throughout the heartwood of over mature trees. (Boyce)

Needle cast caused by Lophodermium pinastri (Schrad.) Chev.

Idaho - common but does not seem to do as much damage as Hypoderma deformans. (Schmitz)

Oregon - epidemic at times causing a considerable number of small trees to lose a large percentage of their needles. (Boyce)

Pacific slope yellow pine mistletoe - Razoumofskya campylopoda (Engelm.) Piper = (R. robusta)

Idaho - common; often causes enormous brooms. (Schmitz)

Very widespread; abundant on trees of all ages. (Boyce)

PINE, YELLOW (Pinus ponderosa)

Mistletoe - Razoumofskya campylopoda (Engelm.) Piper

An article by W. J. Perry, (Can Mistletoe be eradicated by pruning? Journal of Forestry 20: 627-628. Oct. 1922). The author states that mistletoe can be eradicated from individual young trees by pruning them. The operation, though, must be repeated after two years. This is to eradicate the young mistletoe plants which were not noticeable at the first pruning and before they can bear seed, as it has been observed that some plants bear seed in the third year. In order actually to rid an area of mistletoe it is necessary to fell all infected trees which have no commercial value, as well as to prune those selected for use. Whether it is practical to practice such intensive forestry when the stumpage is only worth about a dollar or two is a question to be thoughtfully considered.

White pouch fungus caused by Polyporus volvatus Pk.

Idaho - quite common, especially after trees have been injured by fire. (Schmitz)

Reference:

Schmitz, Henry. Note concerning decay of western yellow pine slash caused by Polyporus volvatus Pk. Phytopath. 12: 494-496. Oct. 1922.

Rot caused by Polyporus eurbescens Fr.

Idaho - a rare species, collected near Sandpoint. (Schmitz)

PINE, PARRY PINION (Pinus quadrifolia)
Needle blight caused by Hypoderma sp.
Oregon (Boyce)

PINE, RED (Pinus resinosa)
Wood rot caused by Flammula alnicola Fr.
Minnesota - saprophytic (Sect. Pl. Path.)

Wood rot caused by Polyporus sulphureus (Bull.) Fr.
Minnesota (Sect. Pl. Path.)

Rust caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long
Vermont - Hedgc. & Hunt)

Damping-off caused by Rhizoctonia solani Kühn
Connecticut - serious in seed beds. (Clinton)

PINE, PITCH (Pinus rigida)
Dying of needles cause undetermined.
Massachusetts - on Cape Cod, in the town of Falmouth, one stretch of pitch pines of two or three square miles was affected by some trouble which evidenced itself in the dying of about half of the distal portion of the needles; the whole woods as far as the eye could see was bronzed. The only fungus found, as identified by N. O. Howard, was Hypoderma desmazieri and this was not abundant; whether or not this was the cause of the trouble or secondary could not not be determined. (Snell)

Rust caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long
Massachusetts, Connecticut, New York, Pennsylvania, Maryland, District of Columbia, and North Carolina. (Hedgc. & Hunt)

Coleosporium terebinthinaceae (Schw.) Arth.
North Carolina (Hedgc. & Hunt)

PINE, POND (Pinus serotina)
Rusts caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long
New Jersey, South Carolina, Georgia, and Florida. (Hedgc. & Hunt)

Coleosporium terebinthinaceae (Schw.) Arth.
South Carolina (Hedgc. & Hunt)

PINE, WHITE (Pinus strobus)
Dry rot caused by Fomes pinicola Fr. & Cke.
New Hampshire - occurs abundantly on white pine in the white mountains, especially on the older stands; it is causing the decay of many of many of the trees in the famout Cathedral Woods at Intervale, where it is causing a butt rot instead of a bole rot due to the poor pruning which gives the fungus entrance near the ground line, instead of higher. (Snell)
Wood rot caused by Hydnum cora lloides Scop.
Minnesota - (Sect. Pl. Path.)

Leaf cast caused by Hypoderma brachysporum (Rostr.) Tub.
Maine, New Hampshire, Massachusetts, and Rhode Island. (Collins)

Polyporus schweinitzii Fr.
New Hampshire - abundant on the ground, growing from the roots. (Snell)

Cryptosporium pini B. & C.
Maine - Kittery Point (Pierce)

Septobasidium pinicola Snell
New Hampshire - North Conway

"Found in all of the New England states but Rhode Island and in New York; no collections in Canada or in the middle western white pine states are known; according to Weir, the same species occurs on Pinus monticola in the western white pine states; collected in Idaho by Weir." Snell, W. H. A New Septobasidium on Pinus strobus. Mycologia 14: 55-60. Mar. 1922.

Fusicoccum sp.
New Hampshire, Massachusetts, and Delaware. (Collins)

Ant canker caused by Formica exsectoides.
Connecticut - causes a canker of dead bark at base of young trees; the ants build nests and then sting in formic acid in base of trees, especially in young plantations to kill them or get rid of shade; sometimes considered winter or Phoma canker. (Clinton). This trouble, though caused by ants, is included here on account of its probably helpful suggestion to those who may have noticed similar cankers and were not aware of the real cause.

Chemical injury
Snell, W. H. & Howard, N. O. Notes on chemical injuries to the eastern white pine (Pinus strobus L.) Phytopath. 12: 362-368. Aug. 1922.

Sun scald
Massachusetts - rather less than in recent years, general in range throughout state, causes a die-back of the needles; one of the most commonly reported troubles of the white pine. (Osmun)

Needle blight - cause undetermined
Massachusetts, Rhode Island, New York, and District of Columbia (Collins)

Needle drop - probable cause , late frosts.
Connecticut - more prevalent; seen only in the years 1921-1922. The needles of the present year die at their base and finally drop off; has a serious aspect. Found in Fairfield, New Haven and New London Counties; earliest report was in June. (Clinton)

Damping-off caused by Rhizoctonia solani Kuhn
Connecticut - one report of serious injury to seed beds, July 11 at Cheshire, New Haven County. (Clinton)

White pine blister rust caused by Cronartium ribicola Fischer
A report of the white pine blister rust control work in the United States in 1921 and 1922 has already been given (Pl. Dis. Bul. Suppl. 23:439-441) and it is not thought necessary to repeat the summary of the 1922 results here.

STATUS OF WHITE PINE BLISTER RUST CONTROL IN PENNSYLVANIA IN 1922

(Prepared by J. F. Martin, Office of Blister Rust Control)

The first report of the white pine blister rust on Ribes in Pennsylvania was made in the fall of 1921, by S. B. Detwiler of the U. S. Bureau of Plant Industry, who found infection on cultivated black currants in Wayne County. Subsequently, additional infections were found on pine and Ribes in Wayne County by representatives of the Pennsylvania Bureau of Plant Industry and of the Pennsylvania Department of Forestry. Also, one infection was reported from Montrose, Susquehanna County, by Prof. Overholts of the Pennsylvania State College. Prior to 1921, the blister rust had been found on planted white pine in Berks, Montgomery, Monroe and Cambria counties, but the diseased trees were destroyed before the rust had a chance to spread to the leaves of Ribes. No infection was found during 1919 and 1920.

The discovery of the rust in northeastern Pennsylvania led to a more thorough survey in 1922. The Pennsylvania Department of Forestry undertook a survey of Wayne and Susquehanna counties to determine the amount and distribution of white pine as a basis for the intelligent application of control measures. It is stated that Wayne County, with a total area of 472,960 acres, had 283,707 acres or 59.9 per cent forest land. Of this area 116,398 acres are in farm woodlots. Hardwoods predominate and white pine is not abundant in any part of the county. Stands of merchantable white pine, covering 475.8 acres, were estimated to contain 1,977,575 board feet. Immature white pine occurs in commercial quantities on 773.6 acres, and is found in small amounts on 4725.6 acres.

Susquehanna County has a total land area of 527,360 acres, with 180,000 acres, or 34 per cent, in forests. A large, additional acreage of unimproved farm land will ultimately revert to forest. The composition of the forests is chiefly hardwoods, with white pine occurring in limited quantities. Only 92.1 acres of merchantable white pine totaling 780,500 board feet were located in the county, while immature white pine in commercial quantities occurs on 51.3 acres. White pine is slowly invading abandoned pastures to some extent but is losing ground when in mixture with hardwoods and hemlocks.

During the past season the Pennsylvania Bureau of Plant Industry in cooperation with the Federal Department of Agriculture, conducted a survey to determine the distribution of the rust and secure data on the habitat and abundance of its alternate host, currants and gooseberries. Inspections were made in 118 localities in 10 counties, in two of which the disease was found. One infection on Ribes nigrum was located near Carbondale, Lackawanna County, while in Wayne County three infections were discovered on R. nigrum and one on R. cynosbati, the wild prickly gooseberry, in an abandoned orchard pasture. The only wild Ribes found diseased in 1921 were growing in this same pasture.

A survey to determine the distribution of wild Ribes was conducted in connection with the scouting for the disease. An examination was made of the wild bushes growing on 69 areas selected in Northampton, Monroe, Pike, Wayne, Luzerne, Sullivan, Bradford, Wyoming and Susquehanna counties. The sample plots totaled 99.25 acres and averaged 5.8 bushes per acre. The principal species was R. cynosbati, which is plentiful on rocky hillsides and stony pastures. A few plants of R. rotundifolium were observed but this species is not very common.

In making the survey 4 types of habitat were selected, viz., woodland, pasture, swamp and fence rows. The pasture type had an average of 12 bushes per acre on 23 areas covering 38.5 acres. On 42 areas in the woodland type, totaling 56.25 acres, the Ribes averaged 2 per acre. Along 13 fence rows, covering 3485 yards, the Ribes were found to average 1.8 bushes per hundred yards. Only 4 swamps were examined as they are comparatively scarce in the region scouted. Ribes were absent in 3 of the swamps and only a few bushes were found in the fourth.

Control of the blister rust in the region examined should not be difficult owing to the comparatively small number of wild Ribes and the scattered occurrence of white pine. However, since the rust is present in northeastern Pennsylvania, owners of good stands of young pine should take immediate steps to protect them by destroying all currants and gooseberries in the vicinity of the trees.

Recent literature

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Colley, Reginald H. and Minnie W. Taylor. Studies in the aecial stages of Cronartium ribicola and Cronartium occidentale. (Abstract) Phytopath. 13: 46-47. Jan. 1923.

Cooper, Wm. S. The ecological life history of certain species of Ribes and its application to the control of the white pine blister rust. Ecology 3: 7-16. 1922.

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Dufroney, Jean. The occurrence of Cronartium ribicola in Europe. Phytopath. 12: 302-304. June 1922.

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Heald, F. D. Report on blister rust of white pine. Washington State College Sta. Bul. 167: 38-43. 1922.

Hofmann, J. V. White pine blister rust. Timberman 23^5: 33-35. Mar. 1922.

Metcalf, Haven. White pine blister rust in the northwest. (Abstract) Phytopath. 13: 46. Jan. 1923.

Posey, G. B. and J. S. Boyce. White pine blister rust in the western United States. U. S. Dept. Agr. Circ. 226: 1-7. 1922.

Spaulding, Perley. Investigations of the white pine blister rust. U. S. Dept. Agr. Bul. 957: 100. 1922.

__________ Foreign studies of white pine blister rust. (Abstract) Phytopath. 13: 45. Jan. 1923.

__________ Viability of telia of Cronartium ribicola in early winter. Phytopath. 12: 221-224. 1922.

Taylor, Minnie W. Potential sporidia production per unit in Cronartium ribicola. Phytopath. 12: 298-300. June 1922.

__________ White pine blister rust infection through grafted roots. (Abstract) Phytopath. 13: 46. Jan. 1923.

York, H. H. & W. H. Snell. Experiments in the infection of Pinus strobus with Cronartium ribicola. Phytopath. 12: 148-150. Mar. 1922.

PINE, SCOTCH (Pinus sylvestris)

Damping-off caused by Rhizoctonia solani Kuhn
Connecticut - locally serious in seed beds. (Clinton)

Dothiorella pinastri (Fr.) Sacc.
Oregon - apparently weakly parasitic on trees badly injured by root pruning during transplanting. (Boyce)

PINE, LOBLOLLY (Pinus taeda)

Rusts caused by Coleosporium delicatulum (Arth. & Kern) Hedgc. & Long
Virginia, North Carolina, South Carolina, Florida, and Texas. (Hedgc. & Hunt)

Coleosporium terebinthinaceae (Schw.) Arth.
South Carolina and Alabama. (Hedgc. & Hunt)

Septoria acicola (Thuem.) Sacc.
Florida - Florida National Forest (Western Div.) July 5. Coll. E. J. Boone. (PHN5)

PINE, SCRUB (Pinus virginiana)

Rusts caused by Coleosporium helianthi (Schw.) Arth.
Pennsylvania, Maryland, Virginia, West Virginia, Tennessee, North Carolina and Georgia. (Hedgc. & Hunt)

Cronartium cerebrum (Pk.) Hedgc. & Long = (Peridermium cerebrum Pk.)
Delaware - very prevalent, first recorded appearance in April at Houston. (Adams)

PINE (Pinus spp.)

Anthracnose caused by Colletotrichum sp.
Ohio - severe in seed beds; kills the growing points of the seedling; period of greatest injury during August and September; disease confined to nursery seed beds. (Detmers)

Daedalea berkeleyi Sacc.
Florida - Brooksville. Coll. J. A. Stevenson (PHN5)

Scaly Lentinus rot caused by Lentinus lepideus Fr.
District of Columbia - on living tree in front and west of the Old National Museum; found growing out of branch scars. (Martin)

Lophodermium blight caused by Lophodermium sp.
Kansas - (White)

Tuckahoe or Poria cocos (Schw.) Wolf. (Pachyma cocos) (Sclerotium giganteum Macbride) (Sclerotium cocos Schw.)
Summary of article by F. A. Wolf in Jour. Elisha Mitchell Soc. 38: 127-137. Sept. 1922.

"This study of the southern tuckahoe, Pachyma Cocos, includes an account of its history, structure and origin together with the development and morphology of its fruiting stage. The spore stage is described for the first time and the name Poria cocos is attached."

Pine cone rusts caused by Cronartium strobilinum (Arth.) Hedgc. & Hunt
Hedgcock, G. G. G. G. Hahn, & N. R. Hunt. Two important pine cone rusts and their new cronartial stages. Phytopath. 2: 109-122. Mar. 1922.

Root rot caused by various damping-off fungi.
Rathbun, A. E. Root rot of pine seedlings. Phytopath. 12: 213-220. May, 1922.

SEQUOIA (Sequoia sempervirens)
Helotium sphaerophoides Phill. & Harkn.
Oregon - very common; many needles killed. (Boyce)

Cankers
Dufrency, Jenn. Tumeurs de Sequoia sempervirens Bul. Soc. Path. Veg. France. 9: 148-150.

SPRUCE, WHITE (Picea canadensis)
Leaf cast caused by Lophodermium sp.
Minnesota - Itasca County, Aug. 7. (Sect. Pl. Path.)

SPRUCE, ENGELMANNI(Picea engelmann)
Needle rust caused by Chrysomyxa weirii Jackson
Idaho - occasionally found, but not common. (Schmitz)
Oregon - causes premature death and dropping of infected needles. (Boyce)

Stringy brown rot caused by Echinodontium tinctorium Ell. & Ev.
Idaho - not common. (Schmitz)

Matting caused by Herpotrichia nigra Hart.
Idaho - common at high elevations on small trees. (Schmitz)

SPRUCE, BLACK (Picea mariana)
Rust caused by Melampsoropsis cassandrae (Pk. & Clinton) Arth.
Minnesota (Sect. Pl. Path.)

SPRUCE (Picea spp.)

Rust caused by Melampsoropsis ledicola (Pk.) Arth.
Wisconsin, Minnesota (Collins)

YEW, WESTERN (Taxus brevifolia)
Needle blight caused by Diplodia taxi (Dow.) De Not (?)
Oregon - of occasional occurrence; mostly on needles of the season, rarely on needles of past season. (Boyce)

Heart rot - cause unknown
Idaho - common. (Schmitz)

DISEASES OF HARDWOODS

ACACIA (Acacia farnesiana)
Ravenelia australis Diet. & Neg.
Texas - (PHN5)

ALDER, RED (Alnus oregona)
Canker attributed to a Cytospora sp.
Washington - a severe attack of what appears to be a species of Cytospora has been reported on this host; every tree up to ten feet high killed outright over a quarter of an acre and the parasite is spreading rapidly. Found on Lummi Island, Whatcom County, August 9. (Boyce)

White heart rot caused by Fomes igniarius (L.) Fr.
British Columbia - of little economic importance. (Boyce)

Leaf spot - caused by Gloeosporium cylindrospermum (Bon.) Sacc.
Oregon - common; elevation 900 feet. (Boyce)

AIDER, MOUNTAIN (Alnus tenuifolia)
Powdery mildew caused by Phyllactinia corylea (Pers.) Karst.
British Columbia - little injury results. (Boyce)

Catkin deformation caused by Exoascus tosquinetii Sacc. (Exoascus amentorum Sade.) (Taphrina amentorum Sade.)
Idaho - very severe in some localities; fruits on practically all trees being deformed, of little real economic importance due to host's economic position. (Boyce)

Leaf spot caused by Gloeosporium cylindrospermum (Bon.) Sacc.
Oregon - found at elevation of 3800 feet. (Boyce)

ASH, WHITE (Fraxinus americana)
Rust caused by Puccinia peridermiospora (Ell. & Tracey) Arth = (P. fraxinata (Lk.) Arth) (Aecidium fraxini Schw.)
Massachusetts - (Collins)
Delaware - much more than in previous years; very serious in 1922; maximum found in any one planting, about 40%; general throughout state; varietal forms were particularly susceptible; the young twig growth as well as the fruit was very seriously infected. (Adams)
Minnesota - very heavy infection along the river banks; earliest date reported May 27. (Sect. Pl. Path.)

Wood rot caused by Polyporus picipes Fr.
Minnesota - (Sect. Pl. Path.)

ASH, GREEN - (Fraxinus lanceolata)
Rust caused by Puccinia peridermiospora (Ell. & Tracy) Arth.
Minnesota - (Sect. Pl. Path.)
North Dakota - common but not important. (Weniger)

ASH, OREGON (Fraxinus oregona)
Leaf blight caused by *Cylindrosporium californicum* Earle
Oregon - produces a premature browning of the leaves. (Boyce)

ASH, RED (Fraxinus pennsylvanica)
Leaf spot caused by *Ramularia fraxinea* Davis
Wisconsin - (PHN5)

ASH (Fraxinus spp.)
Rust caused by *Puccinia peridermiospora* (Ell. & Tracey) Arth.
New Hampshire - (Butler)
Massachusetts - more than in 1921; unusually severe; confined largely to the eastern part of the state along the coast; earliest date reported June 15; there seemed to be an epiphytotic during the year. (Osmun)
Rhode Island - the rust on ash was very abundant in the state; have not noted such abundance since the wet summer of 1916. (Snell)
Kansas - (White)

Leaf spots, cause undetermined.
Texas and Kansas

Heart rot caused by *Fomes fraxinophilus* Pk.
Ohio - general in distribution and severity. (Scherer)

ASH, MOUNTAIN (Sorbus americana)
Rust caused by *Gymnosporangium cornutum* (Pers.) Arth.
Maine - (Collins)

ASH, MOUNTAIN (Pyrus sitchensis)
Frost injury
New York - injury of foliage in early spring. (Chupp)

ASH, MOUNTAIN (Sorbus scopulina (Pers.) Fr.)
Canker caused by *Cytospora chrysosperma* (Pers.) Fr.
Montana - Hubert, Phytopath. 10: 443. Oct. 1920.

BASSWOOD - (Tilia americana)
Phyllosticta tiliae Sacc. & Speg.
New York - (Collins)

BASSWOOD (Tilia sp.)
Anthracnose caused by *Gloeosporium tiliae* Oudem.
New York - found on Long Island. (Clinton)

BIRCH, WESTERN RED (Betula fontinalis)
Leaf spot caused by *Septoria betulicola* Pk.
Oregon - causes little injury; of no economic importance; only found once in a while. (Boyce)

Powdery mildew caused by Phyllactinia corylea (Pers.) Karst.
British Columbia - occasionally occurs; causes little damage. (Boyce)

BIRCH, SWEET (Betula lenta)
Canker caused by Creonectria coccinea (Pers.) Seaver (Nectria coccinea Fr.)
New York - very prevalent on sweet birch in Prospect Park, Brooklyn. (Graves)

BIRCH, PAPER (Betula papyrifera)
White wood caused by Fomes everhartii (Ell. & Gall.) Schrenk
Minnesota - both parasitic and saprophytic (Sect. Pl. Path.)

Wood rot caused by Lenzites betulina (L.) Fr.
Minnesota (Sect. Pl. Path.)

Powdery sapwood rot caused by Polyporus betulinus (Ball.) Fr.

Wood rot caused by Polyporus fuscus Pers. (P. resinosus (Schrad.) Fr.)
Minnesota (Sect. Pl. Path.)

BIRCH, WHITE (Betula populifolia)
Melanconium betulinum Schm. & Kze.
Pennsylvania - (Collins)

Septoria betulina Sacc.
Wisconsin - (Collins)

BIRCH (Betula spp.)
Leaf spot caused by Septoria betulae (Lib.) Westd.)
Pennsylvania - local; very severe; on small seedlings at Seven Mountains; every leaf of seedlings badly spotted. (Overholts)

BUCKEYE, CALIFORNIA (Aesculus californica)
Leaf spot caused by Septoria aesculi (Lib.) Westd.)
California - locally very common, killing many leaves. (Boyce)

BUCKEYE (Aesculus glabra)
Leaf blotch caused by Guignardia aesculi (Pk.) Stewart.
Rhode Island - (Collins)
Ohio - less prevalent than in former years; of general occurrence throughout state. (Detmers)

BUCKTHORN (Rhamnus sp.)
Crown rust caused by Puccinia coronata Cda. (See crown rust of oats. Plant Disease Bulletin Supplement 27: 227-229. July 1, 1923)

BUTTERNUT (Juglans cinerea)

Melanconis caused by Melanconis juglandis (E. & E.) Graves = (Melanconium oblongum Berk.) (Diaporthe juglandis E. & E.)

Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Maryland, West Virginia, Wisconsin, Iowa, Canada. (Graves)

This disease probably extends over entire natural range of the butternut. (Graves)

Recent literature

Graves, Arthur H. The Melanconis disease of the butternut. (Abstract) Phytopath. 13: 47. Jan. 1923.

Anon. Why butternut trees are dying out. Amer. Nut. Jour. 18:14. Jan. 1923.

CAMPHOR (Cinnamomum camphora)

Anthracnose caused by Gloeosporium camphorae Sacc.

Texas - trace. (Taubenhaus)

Canker caused by Diplodia sp.

Texas - trace. (Taubenhaus)

Leaf spot caused by Cephaleuros virescens Kunze

Louisiana - occasionally present; causes small per cent of injury; loss very slight; earliest report of occurrence for year, April 17. (Edgerton)

Pestalozzia sp.

Howard, N. O. The relation of an undescribed species of Pestalozzia to a disease of Cinnamomum camphora. Nees & Eberm. (Abstract) Phytopath. 13: 47-48. Jan. 1923.

CASCARA (Rhamnus purshiana)

Leaf rust caused by Puccinia coronata Cda. = (Puccinia ~~rahmni~~ Rhamni (Pers.) Wettst)

British Columbia - is occasionally found; does little injury to host. (Boyce)

Leaf spot caused by Septoria blasdalei Sacc. & Syd. = (Septoria variegata Ell. & Ev.)

California - found at an elevation of 3500 feet. (Boyce)

CATALPA (Catalpa catalpa) = (C. bignonioides)

Leaf spot caused by Macrosporium catalpae Ell. & Mart.

West Virginia, Kentucky and Illinois. (Collins)

Phyllosticta catalpae Ell. & Mart.

New Jersey, Illinois - (Collins)

CATALPA (Catalpa sp.)

Leaf spot caused by Macrosporium catalpae Ell. & Mart. = (Alternaria

Connecticut - Hartford County, July 11. (Clinton)

New York - reported once during year; very severe on one tree. (Chupp)

Ohio - more than in 1921; range in state throughout northwest portion. (Detmers)

Leaf spot caused by Phyllosticta catalpae Ell. & Mart.
Louisiana - common; a considerable injury but produces little loss. (Edgerton)

Powdery mildew caused by Oidium sp.
West Virginia - practically every tree examined was mildewed. (Sheldon)

CHERRY, WESTERN CHOKE (Prunus demissa)
Canker caused by Cytospora chrysosperma (P.) Fr.
Montana - (Bubert, Phytopath. 10: 443. O. 1920)

Sclerotiniose caused by Sclerotinia demissa Dana
Washington - (Dana)

Black knot caused by Plowrightia morbosa (Schw.) Sacc.
Washington - caused considerable damage in one locality, however the host is of no economic importance. (Boyce)

Leaf blisters caused by Taphrina cerasi (Fckl.) Sade. = (Exoascus cerasi Fckl.) Sade.
Idaho - results in little injury to the host as a rule. (Boyce)

Leaf injury - non parasitic
Washington - (Dana)

CHERRY, CHOKE (Prunus melancarpa)
Volutella nectrioides Sacc.
North Dakota - (PHN5)

CHERRY, BLACK (Prunus serotina)
Polyporus sulphureus (Bull.) Fr.
New Hampshire and Rhode Island (Snell)

Leaf spot caused by Coccomyces lutescens Higgins
Illinois - very common in counties in southern part of state; one central section county reported. (Anderson & Tehon)

Powdery mildew caused by Podosphaera oxyacanthae (DC.) DeBy.
Illinois - importance slight; July 1. (Tehon)

Black knot caused by Plowrightia morbosa (Schw.) Sacc.
Massachusetts, Pennsylvania - (Collins)

CHERRY, CHOKE (Prunus virginiana)
Anthracnose caused by Coccomyces prunophorae Higgins = (Cylindrosporium padi Karst)
Connecticut - on roadside trees; July 28. (Clinton)

Brown rot caused by Sclerotinia cinerea (Bon.) Wor.
Connecticut - occasional. (Clinton)

Powdery mildew caused by Podosphaera oxyacanthae (DC.) DeBy
Connecticut - local. (Clinton)
New York - especially prevalent; over entire state. (Chupp)

Rust caused by Puccinia pruni spinosae Pers.
South Carolina - unimportant. (Ludwig)

CHESTNUT (Castanea dentata)
Blight caused by Endothia parasitica (Murr.) And.

RECENT SPREAD OF CHESTNUT BLIGHT

Prepared by G. F. Gravatt, Office of Forest Pathology

"The chestnut blight continued its steady spread southward and westward during 1922. This disease spreads faster in a region where the chestnut trees are in unthrifty condition than where the trees are vigorous. It has made fast progress down the eastern slopes of the Blue Ridge Mountains and the zone within which 80% of the trees are infected has now nearly reached North Carolina. The blight is now becoming prominent in the northwestern part of Pennsylvania, in the National Forest of that region nearly 10% of the trees being infected. In the New England states it has practically reached the northern boundary of chestnut growth.

"There are still a few native chestnut trees left around New York City, where the disease started in this country. These trees are gradually being killed but they display considerable resistance to the blight. Quite a number of oriental planted chestnuts have escaped or thrown off the blight and are now free of the disease."

New Hampshire - (Butler)
Massachusetts - general throughout the state; practically no stand of canker-free chestnut now left in state; chestnut trees rapidly becoming extinct. (Osmun)
New York - throughout state wherever chestnuts are grown; only a question of time until not a native chestnut tree will be left in the state. (Chupp)
Maryland - serious and general. (Martin)
Ohio - on varieties of cultivated American and cultural varieties of European chestnut; found in 1922 at the station plantation on thirteen-year-old cultivated American chestnuts; a small planting of grafted stock of European varieties southwest of Wooster and at Solon, Cuyahoga County; serious in nurseries. (Detmers)

Indiana - found in a nursery; one tree killed. (Gardner)

Recent Literature

Collins, J. Franklin. A noteworthy case of resistance to the chestnut bark disease. (Abstract) Phytopath. 13: 47. Jan. 1923. no. 1.

Canker caused by *Fusicoccum* sp,, according to C. Emlen Scott in the Monthly Bulletin of Dept. of Agr. of Calif. 11: 740-741. Oct. 1922, this disease is caused by a species of Fusicoccum which is rather closely related to *Endothia parasitica*. Although it has not yet appeared as virulent as the blight, it has shown itself to be capable of causing severe injury to the host under conditions that prevailed at Grass Valley, Nevada County, California. Specimens were sent to J. Franklin Collins, Office of Forest Pathology, Washington, D. C. All diseased stock was removed from the orchard which was thoroughly inspected by the State Department. The trees are being carefully watched to prevent development and spread of any infections which might appear. The first signs of the disease are wilting and drooping of foliage, caused by girdling branches. The growing of chestnuts is still in an experimental state in California but the Sierre foothill district appears to be well adapted to the growing of chestnut trees.

Leaf spot caused by Marssonia ochroleuca B. & C.
Ohio - abundant locally; period of greatest injury July and August when host is in full leaf; favorable weather conditions. (Detmers)

Powdery mildew caused by Microsphaera alni (Wallr.) Salm.
Connecticut - reported from three counties; found chiefly on young sprouts. (Clinton)

Pennsylvania - general and severe; quite abundant during 1922 on chestnut sprouts; was fruiting by the middle of August. (Overholts)

NUMMULARIA
~~Numularia~~ sp.
Rhode Island (Collins)

COFFEE-TREE, KENTUCKY (Gymnocladus dioica)
Coniothyrium olivaceum Bon. var. Gymnocladi Hollos.
District of Columbia - collected by A. E. Jenkins. (PHN5)

DOGWOOD (Cornus nuttallii)
Powdery mildew caused by Phyllactinia corylea (Pers.) Karst
British Columbia - common but causes little injury to the host. (Boyce)

European canker caused by Nectria galligena Bres.
Oregon - (Phytopath. 12: 105. Feb. 1922)

ELDER (Sambucus glauca)
Canker caused by Cytospora chrysosperma (P.) Fr.
Washington - (Phytopath. 10: 443. Oct. 1920)

ELAEAGNUS ANGUSTIFOLIA
Camarosporium elaeagnellum Fairman

ELDER, MARSH (Iva oraria)
Aecidium ivae Jackson
Maryland - North Beach, Aug. 19. Coll. Stevenson, J. A. & W. N. Diehl, (PHN5)

ELM, WING (Ulmus alata)
Anthracnose caused by Gnomonia ulmea (Schw.) Thuem. = Dothidella ulmea (Schw.) E. & E) (Gloeosporium ulmeum Miller) (Phyllachora ulmi Fckl.)
Illinois - (Tehon)

ELM, WHITE (Ulmus americana)
Anthracnose caused by Gnomonia ulmea (Schw.) Thuem.
Rhode Island - (Collins)
Virginia - (Collins)
Illinois - of considerable importance in 1922; about 100% affected plants in state; caused serious defoliation; throughout state, first reported occurrence, June 17. (Tehon)

Butt rot caused by Ganoderma curtisii (Burk.) Murr.
Ohio - very severe local infection. (Scherer)

Powdery mildew caused by ~~Phyllactina~~ phyllactinia corylea (Pers.) Karst.
New York - earliest recorded appearance in 1922, July 1. (Kirby)

Red heart rot caused by Polyporus sulphureus (Bull.) Fr.
New Hampshire - has fruited abundantly during season. (Snell)
Rhode Island - abundant fruiting; found growing on telephone poles on streets of Providence. (Snell)

Twig blight caused by Poronidulus conchifer (Schw.) Murr.
Ohio - white elm shade trees are more frequently attacked than those in the open country. (Detmers)

Canker caused by Sphaeropsis sp.
Massachusetts - cankers on twigs and branches in the upper part of the Washington elm at Cambridge, April 19. (Collins)

Aborted nuts - cause uncertain.
Washington - (Dana)

Wood rot caused by Elfvingia megaloma (Lev.) Murr.
Ohio - tree was about three fourths dead; beyond saving. (Scherer)
Michigan - some trees just ready to die; others not so bad; trees in all stages of decay. (Scherer)

Macrophoma sp.
D.C. - (Collins)

ELM, SLIPPERY (Ulmus pubescens)
Anthracnose caused by Gnomonia ulmea (Schw.) Thuem.
Illinois - (Tehon)

ELM (Ulmus spp.)
Anthracnose caused by Gnomonia ulmea (Schw.) Thuem.
Vermont - more than in the past two years; 5% crop injury; loss negligible. (Lutman)
Massachusetts - rather more than usual; general over state. (Osmun)
Connecticut - more than the average amount. (Clinton)
New York - very prevalent but not of much importance; individual elm trees seem to be affected badly and almost defoliated while others of the same species and with intermingling branches are hadrly affected. (Chupp)
Oklahoma - rather prevalent. (Stratton)

Ohio - less prevalent than in average year; of slight importance in 1922; general throughout state. (Detmers)
Illinois - very severe locally; caused a 75-85% defoliation. (Scherer)

Twig blight caused by Poronidulus conchifer (Schw.) Murr.
Ohio - more than the average amount. (Detmers)

Anthracnose caused by Gloeosporium inconspicuum Cav.
Ohio - found throughout northern part of state; earliest reported appearance June 1; period of greatest injury when host is in full leaf during June and July. (Detmers)

Canker caused by Sphaeropsis ulmicola Ell. & Ev.
Wisconsin - increasing in prevalence; nursery inspectors condemned 954 trees in 20 nurseries during 1922. (Vaughan)

Texas root rot caused by Ozonium omnivorum Shear
Texas - prevalent. (Taubenhaus)

Slime flux caused by bacteria, yeast, etc.
New York - reported August 1 from Monroe County. (Chupp)

Other diseases

Hubert, E. E. "Interior dote" in elm. Hardwood Rec. V.54. No. 6. p. 18-20. illus. Ja. 10. 1923.
Föex, Etienne. La maladie des ormes. Journ. Soc. Nat. Hort. France IV, 23: 409-411. Oct. 1922.
Guyot. Notes de pathologie végétale. Bul. Soc. Path. Veg. France 8: 132-138. Feb. 1922.
Spierenburg, Dina. Een onbekende ziejte in de eepen. (Unknown disease of the elm). Verslag. en Mededeel. Plantenziektenk Dienst Wageningen 24: 131 p., pl. 1-4. 1922. Abstract in Bot. Abstr. Vol. 113, 1922.

GINGKO (Gingko biloba).
Irpex tulipiferae S.
District of Columbia - Sept. 26. Colls. A. E. Jenkins & W. W. Diehl.

GUM, BLACK (Nyssa sylvatica)
Botryosphaeria sp.
Pennsylvania - (Collins)

HACKBERRY (Celtis occidentalis)
Root rot caused by Xylaria sp.
Ohio - a large tree at Marietta just about dead. (Scherer)

Smothering disease caused by Septobasidium retiform~~a~~e (B. & C.) Pat.
(~~Telephora~~+ retiformis B. & C.)
Texas - (Taubenhaus)

Witches brooms caused by Phytophthora sp.
West Virginia - abundant in the vicinity of Morgantown. (Sheldon)

Septobasidium sp.
Texas - (Taubenhaus)

+Thelephora

HAWTHORNE (Crataegus chrysocarpus)
Otthia crataegi Fckl.
North Dakota - (PHN5)

HAWTHORNE (Crataegus douglasii)
Rust caused by Gymnosporangium tubulatum Kern
Oregon - results in little injury to the host. (Boyce)

Cylindrosporium sp.
California - parasitic on leaves, elevation 2600 feet. (Boyce)

HAWTHORNE (Crataegus oxyacantha)
Entomosporium thumenii (Cke.) Sacc.
Massachusetts - (Collins)

HAWTHORNE (Crataegus spp.)
Rusts caused by Gymnosporangium globosum Farl.
Ohio - severe local infection. (Scherer)
Michigan - severe local infection. (Scherer)

Gymnosporangium germinale (Schw.) Kern
Delaware - much more than in 1921 and more than the average amount; fruit infection very prevalent. (Adams)

Gymnosporangium juniperi virginianae Schw.
Ohio - (Detmers)

Gymnosporangium spp.
Illinois - average amount; of slight importance during 1922; range in southern part of state; earliest report June 15; chiefly present on leaves. (Tehon)

North Dakota - same amount as in former years; found throughout eastern half of state; June 26. (Weniger)
Colorado - just present; found about Ft. Collins. (Learn)

Fire blight caused by Bacillus amylovorus (Burr.) Trev.
New York - reported from Tompkins County, August 13. (Chupp)
Illinois - Washington County, June 17. (Tehon)
Washington - may be necessary to remove native hosts in Klickitat County for effective control. (Mills)

Leaf blotch caused by Entomosporium thumenii (Cke.) Sacc.
Massachusetts - more than ordinarily important; general throughout state. (Osmun)
Connecticut - one report. (Clinton)

HAZELNUT, CALIFORNIA (Corylus californica)
Gloeosporium coryli (Desm.) Sacc.
Oregon - elevation 150-400 feet. (Boyce)

Septoria corylina Pk.
Oregon - very common, causes leaves to shrivel; elevation 900 feet.(Boyce)

HICKORY (Hicoria spp.)
Anthracnose caused by Gnomonia leptosyla (Fr.) Ces. & deNot.= (Marssonia juglandis (Lib.) Sacc.)
West Virginia - on young growths near Morgantown; not very serious. (Sheldon)

Witches-brooms caused by Microstroma juglandis (Ber.) Sacc.
West Virginia - (Sheldon)

Canker caused by Rosellinia caryae Bonar
Michigan - "I have found that this disease is very generally distributed in the hickory groves along the Huron River which runs through Ann Arbor and vicinity. The typical canker may be found on the younger twigs and more rarely on the larger limbs or trunks. I never found anything except the imperfect stage of the fungus in the field." (Bonar)

Bonar, Lee. The life history of Roselinia caryae sp. nov. causing a hickory canker and disease. Phytopath. 12: 381-385. illus. Ag. 1922. no. 8. Literature cited, p. 385.

Nut rot caused by Penicillium sp., Fusarium sp., and a Phycomycete.
Indiana - found three types of rot, a dry yellowish skeletonization with which a Penicillium was associated; a dark brown or black greasy rot with which a Phycomycete was associated, and a rot accompanied by profuse white mycelium, a Fusarium. (Gardner)

Phyllosticta sp.
Ohio - (Collins)

HORSE CHESTNUT (Aesculus hippocastanum)
Leaf blotch caused by Guignardia aesculi (Pk.) Stewart.
Maine - (Collins)
Massachusetts - becoming more prevalent, severe and widespread; general over state; weather relations apparently favorable to the disease. (Osmun)
Rhode Island - (Collins)
Connecticut - more prevalent; very common; on the European chestnuts present each year; general over state. (Clinton)
New York - getting worse; very serious during 1922; defoliation weakens the tree allowing Nectria to kill it; all over the state; all horse chestnut trees are being killed. (Chupp)
New Jersey - more than in the average year; common all over state; greatest injury during July and August; wet in June and July with normal temperature. (Dept. of Pl. Path.)
Pennsylvania - general and very severe; severe on all trees, with all leaves half to two-thirds dead by August 1. ()verholts)
Maryland - (Collins)
Ohio - less prevalent than in 1921; serious; of general range over state; unfavorable moisture conditions latter part of season although the temperature remained favorable. Ascospores are matured on the fallen leaves at time of leaf development. (Detmers)

Glomerella cingulata (Stonem) S. & V. S.
New York -(Collins)

Collybia velutipes Curt.
Rhode Island - (Collins)

Powdery mildew caused by Uncinula flexuosa Pk.
New York - (Collins)

Leaf spot caused by Septoria sp.
Pennsylvania - on leaves that otherwise appear to be infected with the blotch but the Septoria fruiting on dark areas over the blotched surface; importance has not yet been determined. (Overholts)

Coral spot caused by Nectria cinnabarina (Tode) Fr.
New Hampshire - found doing a great deal of damage to horse chestnuts in certain places in the White Mountains; some of the trees are full of dead branches covered with the coral spot. (Snell)

Schizophyllum alneum Schr.
New Jersey - (Collins)

Tubercularia sp.
Massachusetts, Rhode Island - (Collins)

LOCUST (Robinia pseudacacia)
Heart rot caused by Fomes rimosus Berk.
Massachusetts - found for the first time in southeastern part of state where the host trees line the roads between Providence and Cape Cod; these locusts are abundant in places and there is quite a good deal of this fungus in some places; it has been fruiting for some time as indicated by some of the old conks. (Snell)
West Virginia - general about Motgantown. (Sheldon)

White heart rot caused by Trametes robiniophila Murr.
Kauffman, C. H. and Kerber, H. M. A study of the white heart rot of locust, caused by Trametes robiniophila. Amer. Jour. Bot. 9: 493-508. Nov. 1922. Literature cited p. 508.

MADRONA (Arbutus menziesii)
Leaf blight - non-parasitic
Washington - (Dana)

Sphaerella arbuticola Pk.
Oregon - common; practically all leaves of previous season killed; elevation 900 feet. (Boyce)

MAPLE, DWARF (Acer glabrum)
Leaf spot caused by Phyllosticta minima (B. & C.) Ell. & Ev. = (P. minutissima E. & E.)
Idaho, British Columbia - (Boyce).
Associated with Cylindrosporium sp.; is of little importance, although quite abundant where found. (Boyce)

MAPLE (Acer interior)

· Leaf spot caused by Septoria negundinis Ell. & Ev.

Utah - apparently throughout the state defoliating the trees wherever they are attacked. (Garrett)

MAPLE, OREGON (Acer macrophyllum)

White heartwood rot caused by Fomes igniarius (L.) Gill.

British Columbia. (Boyce)

Hypoderma commune (Fr.) Duby.

Oregon - on the petioles of dead leaves on the ground. (Boyce)

BOX ELDER (Acer negundo)

Leaf spot caused by Phyllosticta minima (B. & C.) Ell. & Ev. = (P. negundinis Sacc. & Speg.)

Rhode Island - (Collins)

Septomyxa negundinis

Massachusetts - (Collins)

MAPLE, STRIPED (Acer pennsylvanica)

Leaf spot - caused by Pleospora sp.

Pennsylvania - local; very severe; Aug. 19. (Overholts)

MAPLE, NORWAY (Acer platanoides)

Wilt caused by Verticillium sp.

Wisconsin - found only two trees at Madison which were destroyed. (Vaughan)

Pleospora papillata

Virginia - (Collins)

Phyllosticta (saccharina?)

Virginia - (Collins)

Leaf scorch

New York - severe. Henn

MAPLE, RED (Acer rubrum)

Sap rot caused by Schizophyllum commune Fr.

Ohio - general; severe; a number of young trees had been transplanted and sun-scalded; fruiting bodies appearing around edge of many wounds. (Scherer)

Pholiota adiposa Fr.

New Hampshire - (Snell)

Massachusetts - (Snell)

MAPLE, SUGAR (Acer saccharum)

Leaf spot caused by Gloeosporium apocrytum Ell. & Ev.
- Massachusetts - not serious ; of general range in state. (Osmun)
- Ohio - extremely prevalent and virulent; reported from 5 western, 2 northern, and 1 north central county. (Detmers)
- Indiana - worse than in 1921 and the average year; caused much alarm to owners of shade trees throughout central part of state; May 18 first reported appearance in 1922; a heavy period of greatest injury during last of May; rainfall in April favored this disease. (Gardner)

Anthracnose caused by Gloeosporium saccharina Ell. & Mart.
- Connecticut - three reports from two counties, June 19. (Clinton)

Stega~~m~~nosporium piriforme (Hoffm.) Cda.
- Rhode Island - (Collins)

Leaf scorch -(Collins)
- New York - severe Henn)

Gloeosporium sp.
- New Jersey - (Collins)

Leaf spot - probably Phyllosticta sp.
- West Virginia - on the shaded side of a tree in Morgantown. (Sheldon)

Leaf spot caused by Phyllosticta minima (B. & C.) Ell. & Ev.
- Tennessee - (Collins)

Phenacoccus sp.
- Rhode Island - (Collins)

MAPLE, SILVER (Acer ~~saccharium~~ saccharinum)

Pholiota adiposa Fr.
- New Hampshire - found in several places. (Snell)
- Massachusetts - (Snell)
- Delaware - apparently a wound parasite on a shade tree. Nov. (Adams)

MAPLE, MOUNTAIN (Acer spicatum)

Wood rot caused by Exidia glandulosa Fr.
- Minnesota - saprophytic . Aug. 5. (Sect. Pl. Path.)

MAPLE (Acer spp.)

Leaf spot caused by Gloeosporium ~~apocryptum~~ saccharinum Ell. & Ev.
- New Hampshire
- New York - (Collins)
- South Carolina - unimportant; July 18. (Ludwig)
- Ohio - more than in former years; serious; of general range in state. (Detmers)
- Indiana - (Collins)

Leaf spot caused by *Gloeosporium apocryptum* Ell. & Ev.
Ohio - weather conditions evidently favorable. (Detmers)
Disease quite general throughout eastern part of state; some trees slightly infected, others almost wholly defoliated. (Scherer)

Leaf spot caused by *Phyllosticta minima* (B. & C.) Ell. & Ev. = (*Phyllosticta acoriola*).
Massachusetts - of little importance. (Osmun)
Connecticut - new to the state; seems to have been bad in certain sections. (Clinton)

Leaf spot caused by *Phyllosticta* spp.

Recent literature
Ciferri, R. Notae mycologicae et phytopathologicae. Ann. Mycol. 20: 34-53. illus. Pl. 1922. no. 1/2 Lavori citati: p. 51-52.

Tar leaf spot caused by *Rhytisma acerinum* Fr.
Massachusetts - not of much consequence; practically confined to *Acer rubrum* and *A. saccharinum*. (Osmun)
Delaware - more than in past and average year; of general range in state; leaf infection on *A. rubrum* and *A. saccharinum* prevalent. (Adams)
Indiana - (Gardner)

Black specked leaf spot caused by *Rhytisma punctatum* Fr.
Massachusetts - unimportant; common on young trees in shade of forest; seldom on mature trees. (Osmun)

Tar leaf spot caused by *Rhytisma* sp.
Arkansas - more prevalent; severe. (Elliott)

STEGANOSPORIUM
~~Stegnosporium~~ *piriforme* (Hoffm.) Cda.
Pennsylvania - (Collins)

Wilt caused by *Verticillium* sp.
Virginia - at Roanoke during the past year more than 300 trees in the city parks and along the streets have died from this disease, so states an article in the Roanoke "Times" for Sept. 13.

Recent literature
Schoene, W. J. Thirteenth report of the state entomologist and plant pathologist. Quart. Bull. Virginia Crop Pest Commission. 34: 30. 1922.

White butt rot caused by *Fomes applanatus* (Pers.) Wallr.
Connecticut - on living trees injuring heartwood at least; Middlesex and New Haven Counties. (Clinton)

Chlorosis caused by too much lime.
Texas - prevalent; about an 8% reduction in yield for state. (Taubenhaus)

Sun scorch
Connecticut - more than usual; June 17; seven reports. (Clinton)

Leaf scorch by lightning

Connecticut - several doubtful cases where leaves suddenly were killed and turned brown that may have been so caused but exact data is wanting. (Clinton)

Leaf scorch caused by high temperatures and dry soils.

New York - less prevalent than usual, but always inportant; causes a tip burn and killing of foliage; July 28; a few days of hot, dry wind causes severe scorching of leaves on many shade trees, especially maple. (Chupp)

Indiana - Temperature favorable to injury; July 3; throughout northern section of state. (Gardner & Gregory)

Washington - (Dana)

Winter injury, cause physiological

Ohio - one report; May 11; Stark County. (Detmers)

MULBERRY (Morus alba)

Sclerotinia carunculoides Siegler & Jenkins

South Carolina - Scranton, March. Coll. Siegler, E. A. (PHN5)

OAK, WHITE (Quercus alba)

Powdery mildew caused by Microsphaera alni (Wallr.) Salm.

Pennsylvania - general; quite severe on this host, more so than on Castanea. causing deformation of terminii of shoots and leaves. (Overholts)

Anthracnose caused by Gnomonia veneta (Sacc. & Speg.) Kleb. =(G. canadense) Ell. & Ev.)(G. nervisequum (Fckl.) Sacc.)

New York - (Collins)

Pennsylvania - causing marked necrotic areas on leaves, particularly along the veins; mature conidia, June 6. (Overholts)

Iowa - common (Melhus)

Witches broom caused by Microstroma album (Desm.) Sacc.

West Virginia - no increase in the number of brooms on the tree reported in 1920 at Morgantown. (Sheldon)

Sap rot caused by Stereum sp.

Ohio - local and severe; base of an important oak badly diseased; tree surgery suggested as a means of control. (Scherer)

OAK, SCARLET (Quercus coccinea)

Armillaria root rot caused by Armillaria mellea (Vahl.) Quel.

Minnesota - (Sect. Pl. Path.)

European canker caused by Nectria galligena Bres.

Oregon - Zeller and Owens. Phytopath. 12: 105. Feb. 1922.

Butt rot, cause undetermined

New York- a very pronounced butt rot of scarlet oak which gives a sort of whitish pocketed or piped-rot appearance to the interior of the cut stumps; sap wood was apparently not affected. This has caused a great deal of loss in the timber since it affected the basal part of the trunk for five or six feet up. (Graves)

OAK, WATER (Quercus nigra)

Leaf blister caused by Taphrina coerulescens (D. & M.) Tul.

Florida - reported to be severe at St. Augustine. (Burger)

OAK, CHESTNUT (Quercus prinus)

Leaf spot caused by Marssonia martini Sacc. & Ell.

Pennsylvania - local; causing a moderate amount of damage; as long as the rounded spots remain isolated their centers are occupied by a single acervulus. (Overholts)

Diplodia suberina Dur. & Mont.

Pennsylvania - Bethlehem - collected by B. O. Dodge. (PHN5)

Physalospora cydoniae Arnaud. = (Sphaeropsis malorum Pk.)

New York - (Collins)

OAK, RED (Quercus rubra)

Sapwood rot caused by Polystictus pergamenus Fr.

Ohio - local; severe; treatment recommended is removal of all diseased wood and the treatment of wound. (Scherer)

Red heart rot caused by Polyporus sulphureus (Bull.) Fr.

Ohio - local; severe. (Scherer)

Mildew caused by Oidium sp.

New Hampshire-during the wet season in New England, several diseases of the wet weather type were more prevalent than for some years previously; a mildew was very abundant on red oak in the White Mountains of New Hampshire; I have not noted it in previous summers; it was not doing much damage. (Snell)

OAK (Quercus spp.)

Leaf blister caused by Taphrina coerulescens (D. & M.) Tul.

Massachusetts - rather common; generally distributed throughout state. (Osmun) Severe at Beverly Farms. (Scherer)

New York - general and severe on Long Island. (Scherer)

Connecticut - three reports; new trouble to state; June 30; Fairfield and Tolland Counties. (Clinton)

South Carolina - about the same amount of prevalence as in 1921; unimportant; found in western part of state; May 5. (Ludwig)

Leaf blister caused by Taphrina sp.

Louisiana - not T. coerulescens, but resembles it. (Edgerton)

Anthracnose caused by Gnomonia veneta (Sacc. & Speg.) Kleb.

Massachusetts - rather common; general throughout state; often causes serious defoliation of white oak. (Q. alba). (Osmun)

Angelinia rufescens (Schw.) D By
Pennsylvania - Coll. L. O. Overholts. (PHN5)

Red heart rot caused by Polyporus sulphureus (Bull.) Fr.
New Hampshire - fruited abundantly. (Snell)
Rhodo Island - abundant fruiting. (Snell)

Powdery mildew caused by Oidium sp.
Louisiana - occasional; small percentage of injury; very slight loss; Apr. 25. (Edgerton)

Powdery mildew caused by Microsphaera alni extensa = (Microsphaera quercina (Schw.) Burr.)

Wilson, Malcolm. The oak mildew. Trans. Roy. Scott. Arbor. Soc. 36: 92-97. July. 1922.

Leaf chlorosis - non parasitic.
Washington - (Dana)

POPLAR, WHITE (Populus alba)
Rust caused by Melampsora abietis-canadensis (Farl.) Ludw.
Oregon - rare and unimportant. (Boyce)

POPLAR, BALM OF GILEAD (Populus balsamifera)
Canker caused by Cytospora chrysosperma (P.) Fr.
Idaho - Hubert. Phytopath. 10: 442. Oct. 1920.

POPLAR, CAROLINA (Populus deltoides)
Canker caused by Cytospora chrysosperma (P.) Fr.
North Dakota - in 1917, while acting state forester, F. W. Smith found this disease to be widespread within the state; P. deltoides is affected throughout the state; it was noticed that the attack of the pathogen is particularly bad where trees had been injured by bruising, such as by hailstorms, etc.

Rust caused by Melampsora medusae Thüm.
Illinois - July 3, at Cave-in Rock, Hardin County. (Tehon)
North Dakota - more than last year; very common, Aug. 30. (Weniger)

POPLAR, LARGE TOOTH ASPEN (Populus grandidentata)
Trametes suaveolens Fr.

Murrill, W. A. A fragrant polypore. Mycologia 14: 46-47. 1922.

POPLAR, LOMBARDY (Populus nigra italica)
Canker - cause unknown
New York - reported June 13 from Oneida County. (Chupp)
North Carolina - reported Mar. 6 from Aiken County. (Ludwig)

POPLAR, QUAKING ASPEN (Populus tremuloides)
Canker caused by Cytospora chrysosperma (Pers.) Fr.
North Dakota - (Smith, Fred W.)
South Dakota, Montana and Idaho -)Hubert. Phytopath. 10: 442. Oct. 1920)

Tar spot caused by Sclerotium bifrons Ell. & Ev.
Oregon - found to quite an extent; causes little injury to the host. (Boyce)

Powdery mildew caused by Uncinula salicis (DC.) Wint.
British Columbia - normally causes little damage. (Boyce)

Leaf rust caused by Melampsora albertensis Arth.
Idaho and British Columbia - common but does little damage. (Boyce)

Fomes igniarius (L.) Fr.

Meinecke, E. P. Pathology of quaking aspen in Utah in relation to regulation. (Abstract) Phytopath. 12: 446. Sept. 1922.

POPLAR, BLACK COTTONWOOD (Populus trichocarpa)
Canker caused by Cytospora chrysosperma (P.) Fr.
Montana, Washington and Idaho - (Hubert. Phytopath. 10: 442. Oct. 1920)

Yellow leaf blister caused by Taphrina aurea (Pers.) Fr.
Oregon - widespread but causes little injury. (Boyce)

Powdery mildew caused by Uncinula salicis (DC.) Wint.
British Columbia - occurs occasionally, little injury. (Boyce)

Leaf rust caused by Melampsora occidentalis Jackson
British Columbia - widespread in range but normally does little damage. (Boyce)

Gall caused by Macrophoma tumefaciens Shear

Reference

Hyde, Karl C. Anatomy of a gall on Populus trichocarpa. Bot. Gaz. 74: 186-196. Pl. VI. O. 1922. no. 2.
Infection experiments on pathogenicity are as yet lacking.

POPLAR (Populus spp.)
Canker caused by Cytospora chrysosperma (Pers.) Fr.
North Dakota - 40% of the stock in one nursery was found to be infected; September; disease not common to state. (Weniger)
Colorado - (Learn)
Arizona - common throughout state. (Brown)
Idaho - causes considerable damage to poplars in various parts of the state. (Hungerford)

Reference

Moss, E. H. Observations on two poplar cankers in Ontario. Phytopath. 12: 425-427. Sept. 1922.

Delacroix, Georges. Sur une maladie du peuplier de la Caroline. Bull, Soc. Mycol. France. 22: 239-252. 1 pl. 1906.

Brown, J. G. Cytospora canker, a disease destructive to cottonwoods and poplars, Arizona Sta. Timely Hints for Farmers, No. 138 (1922), pp. 4, figs. 2.- A description is given of a serious disease of cottonwoods and poplars due to C. chrysosperma, which has appeared in the southwestern part of the United States. Differences in susceptibility to fungus attack are pointed out, and for control the planting of resistant varieties is recommended, as well as providing proper drainage and giving careful attention to pruning.

A canker similar to that caused by Cytospora chrysosperma was reported by Walter H. Snell as being very prevalent in poplars in the White Mountains of New Hampshire, especially on the northside of the Presidential range and that many stands of poplar are being ruined by this trouble, many trees are dead, many broken over while others are stagheaded.

European canker caused by Dothichiza populea Sacc. & Br.

Connecticut - increasing in prevalence; present in most of the nurseries; 32 reports from 5 counties during year; nursery inspectors look out for this and break the infected trees. (Clinton)

Pennsylvania - (Orton and Thurston)

Ohio - average amount of prevalence; severe locally; Norway poplar especially susceptible; period of greatest injury during June and August; June. (Detmers)

Wisconsin - more prevalent; killing all Lombardy poplars in northwestern section of state; reported by white-pine blister rust scouts. (Vaughan)

Reference

Hedgcock, G. G. and N. R. Hunt. Dothichiza populea in the United States. Mycologia. 8: 300-308. Pl. 194-195. 1916. Lit. cited p. 308.

Rust caused by Melampsora medusae Thüm.

South Carolina - unimportant. (Ludwig.)

Melampsora sp.

Iowa - common. (Melhus)

Anthracnose caused by Marssonia populi (Lib.) Sacc.

New Hampshire - July 16 at Woodsville, Grafton County.

Anthracnose caused by Marssonia sp.

West Virginia - a serious disease of trees planted for shade in Morgantown. August 9. (Sheldon)

Leaf spot caused by Phyllosticta sp.

Arizona - common. (Brown)

Powdery mildew caused by Uncinula salicis (DC.) Wint.

Delaware - much more than last year and more than the average year. (Adams)

Iowa - common. (Melhus)

Wood rot caused by Favolus salicis (DC.) Wint.
Minnesota - saprophytic (Sect. Pl. Path.)

Polyporus inzeugae Ces. & DeNot.
Biers, P. M. Le Polyporus (Ungulina) inzeugae. DeNot. parasite du peuplier. Bull. Soc. Path. Veg. Trana. 9: 166-168. July and September. 1922.

SASSAFRAS (Sassafras spp.)

Leaf spot caused by Gloeosporium affine E. & K.
Illinois - common in southwestern part of state; July 17; range of disease is evidently not co-extensive with range of the host in state. (Tehon)

SERVICE BERRY, WESTERN (Amelanchier alnifolia)

Witches broom caused by Fusicladium sp.
Washington - (Dana)

Nectria disease caused by Nectria cinnabarina (Tode) Fr.
Washington - (Dana)

Leaf spot and witches brooms caused by Dimerosporium collinsii (Schw.) Thüm.
Idaho, Washington, British Columbia. - Perennial witches brooms are formed, not uncommon; injury slight. (Boyce)

Powdery mildew caused by Phyllactinia corylea (Pers.) Karst.
British Columbia - though common causes little damage. (Boyce)

Rust caused by Gymnosporangium nelsoni Arth.
British Columbia - sometimes found, little injury to host. (Boyce)

Rust caused by Gymnosporangium kernianum Bethel
Oregon - occurs occasionally; little injury to host. (Boyce)

Rust caused by Gymnosporangium harknessianum (E. & E.) Kern.
Oregon - results in considerable hypertrophy of the leaves, stems and fruits on infected bushes. (Boyce)

SERVICE BERRY (Amelanchier sp.)

Fire blight caused by Bacillus amylovorus (Burr.) Trev.
Washington - found to some extent; believed it would be necessary to remove the native host plants before the disease can be effectively controlled. (Mills)

SYCAMORE (Platanus occidentalis)

Anthracnose caused by Gnomonia veneta (Sacc. & Speg.) Kleb. = (Gloeosporium nervisequum (Fckl.) Sacc.)
Massachusetts - rather more than usual and caused a very serious defoliation. (Osmun)
Connecticut - average amount, June 20. (Clinton)
New York - quite severe in the spring; of general prevalence. (Henn)

West Virginia - (Sheldon).
Illinois - (Collins)

Powdery mildew caused by *Microsphaera alni* (Wallr.) Salm.
District of Columbia - (Collins)
Ohio - less than usual; May 31; moderately important. (Detmers)
Indiana - May 17. (Gardner)
Illinois - of average prevalence; of considerable importance; 25% infection in state; June 6. (Tehon)
Iowa - general in southern part of state. (Melhus)
California - this will be a serious disease if it spreads to any extent as the sycamore is one of the best trees in California; the springs of 1921 and 1922 were worst; Bordeaux mixture recommended as a control. (W. Metcalf)

Recent literature
Enfermedad de los platanos. Bol. Mens. Defensa Agr. Uruguay. 3: 20-21. F. 1922. no. 2.

Drought injury
Washington - (Dana)

Winter killing -
New York - another source of trouble with this tree has been winter killing. It would attain a diameter of six inches and die during a cold winter. It is my belief that Albany is situated beyond the northern range of this tree so we have replaced the oriental plane with other species. (Whaley)

Canker - undetermined.
Wisconsin - cankers on main trunk of eight trees in a nursery. (Vaughan)

New York - In Albany considerable trouble has been caused at times by a canker which would form on the trunks of young trees (2 to 4 inches in diameter) and in a wind storm the tree would break off at the point of attack. (Whaley)

WALNUT - (Juglans spp.)
Leaf spot caused by *Gnomonia leptostyla* (Fr.) Co. & De Not. Syn.=(*Marssonia juglandis* (Lib.) Sacc.
Connecticut - becoming more prevalent; June. (Clinton)
Delaware - tree was nearly defoliated on account of this disease.(Martin)
Illinois - probably throughout state; caused serious local defoliation; June 23. (Tehon)

Melanconium oblongum Berk.
New York - (Collins)

WILLOW - Salix spp.
Rust caused by *Melampsora bigelowii* Thum.
Illinois - average amount of prevalence; slightly important; 50% of plantings in state infested; probably ranges throughout state. Aug. 1. (Tehon)

British Columbia - common but causes little injury. (Boyce)

Melampsora sp.
Colorado - (Learn)
Idaho - common. (Hungerford)

Amphisphaeria decolorans (Rehm)
North Dakota - (PHN5)

Crown gall caused by Bacterium tumefacians EFS. & Town.
Connecticut - caused no particular injury. (Clinton)

Canker caused by Cytospora chrysosperma (Pers.) Fr.
Wyoming, Montana, Idaho, and Washington - (Hubert. Phytopath. 10:443. Oct. 1920)

Tar spot caused by Rhytisma salicinum Fr.
British Columbia - striking but of no economic importance. (Wint.)

Powdery mildew caused by Uncinula salicis. (DC.) Wint.
British Columbia - causes trifling damage. (Boyce)

White heart rot caused by Fomes igniarius (L.) Gill.
Idaho - is of little importance. (Boyce)

European canker caused by Nectria galligena Bres.
Oregon -(Zeller and Owens. Phytopath. 12: 105. Feb. 1922).

Trametes suaveolens Fr.

Recent literature
Murrill. W. A. A fragrant polypore. Mycologia 14: 46-47. 1922.

Leaf blotch caused by an organism similar to Phyllosticta sp.
West Virginia - J. L. Sheldon. Aug. 9, 1922.

> "For several years I have been studying a disease of black willow twigs which in general resembles the blotch of apple twigs in the vicinity of Morgantown. The fungus grows readily in culture media and I have secured a few spores. The spores are so much like those of the apple blotch fungus that I am not certain I can tell them apart; they are, of course, much like those of the leaf spots of grape and ampelopsis. I have repeatedly found the apple blotch fungus within a few feet of the diseased willows. No inoculations have been made."

WITCH HAZEL (Hamamelis virginiana)
Leaf spot caused by Phyllosticta hamamelidis Cke.
Pennsylvania - pycnidia entirely empty of spores by July 15; very severe in district around Seven Mountains. (Overholts)

DISEASES OF ORNAMENTALS

AMPELOPSIS (Ampelopsis quinquefolia)

Leaf spot caused by Guignardia bidwellii (E.) V. & R. = (Phyllosticta ampelopsidis)

Rhode Island - (Collins)

Connecticut - more prevalent, reported from the southwestern section of state. (Clinton)

New York - very common, found over state wherever five-leaf ivy is grown. (Chupp)

Delaware - much more than in previous years and more than the average year. (Adams)

West Virginia - a small amount on both wild and cultivated plants near Morgantown, also found on wild plants near Granville. (Sheldon)

Illinois - the importance of this disease on this host is that it acts as a source of infection for the cultivated grape. It probably ranges throughout the state. (Tehon)

Minnesota - reported from several counties in vicinity of Ramsey County; nature of injury is many leaf spots; some injury to the berries was observed only in east central part of state, mainly on vines not under cultivation. (Sect. of Pl. Path.)

Powdery mildew caused by Uncinula necator (Schwein.) Burr. = (U. ampelopsidis Pk.)

Minnesota - observed only in Scott County. (Sect. Pl. Path.)

Additional states reporting presence of disease in previous years are Massachusetts, New Jersey, Pennsylvania, Maryland, Indiana, and Nebraska.

AMPELOPSIS (Ampelopsis tricuspidata)

Leaf spot caused by Guignardia bidwellii (E.) V. & R.

Massachusetts - more than ordinarily abundant; generally distributed. (Osmun)

Connecticut - becoming more prevalent; most damage is to the foliage, the vines being killed prematurely. (Clinton)

West Virginia - very abundant and destructive to recent growth of host at Morgantown. Seems to be worst on the young runners on tops of walls. (Sheldon)

ASPARAGUS FERN (Asparagus plumosus)

Fusarium sp.

Florida - (Burger)

Phoma sp.

Florida - (Burger)

Physarium sp.
Florida - one specimens of a dying plant sent in was nearly covered with this myxomycete. (Burger)

ASTER, CHINA (Callistephus chinensis)
Wilt caused by Fusarium conglutinans callistephi Beach.
Reported present in N. H., Vt., N. Y., Ohio, Ind., Mich., N. Dak., Ida., and Wash. Has also been found in previous years in Virginia, Illinois, Minnesota, and Oregon.

Vermont - relative prevalence very much above the average; important to commercial growers; the wet weather in June contributed to the early seed bed infection. (Lutman)
Ohio - less prevalent than in 1921. Time of greatest injury is when it attacks the host at the transplanting period. Found in northern and central part of state; unfavorable moisture conditions were existent during latter part of season; temperature conditions were most favorable. (Detmers)
Indiana - worse than in previous years; very serious; reported from northern half of state, drouth and high temperature are favorable for wilt. (Gardner)
Michigan - reported by several householders as serious in small beds. (Coons)
North Dakota - apparently the only limiting factor in growing of asters in garden plots in the state; known to occur in northern, central and eastern parts of state. (Weniger)
Idaho - fairly common, being reported from various sections in state. (Hungerford)

Rust caused by Coleosporium solidaginis. (Schw.) Thüm.
Reported from New York and Louisiana. (Very severe in cultivated asters, killing many of the plants. (Edgerton)

Yellows, cause undetermined.
New Hampshire (Butler) and Delaware (Adams)

Philospora sp.
Florida - an aster plant received from Tampa was badly affected, the leaves had small brown spots in them, the correspondent wrote that the whole stock was badly affected with the disease. (Burger)

BACHELORS BUTTON (Centaurea cyanus)
Rust caused by Puccinia centaureae Mart.
District of Columbia - one plant of 24 affected; stem and leaves of plant completely covered by sori. (Martin)

BARBERRY (Berberis sp.)
Leaf spot - causal organism bacterial.
Idaho - throughout state wherever barberries are grown. (Hungerford)

BEGONIA (Begonia sp.)
Nematodes
Ohio - reported from Clark County. (Detmers)

BOX, (Buxus sempervirens)
Macrophoma candollei (Berk. & Br.) Berl. & Vogl.
New Jersey, Maryland - (Collins)

Volutella buxi Berk.
New Jersey, Maryland - (Collins)

CALLA LILY (Zantedeschia sp.)
Soft rot caused by Bacillus caratovorus or aroidea~~l~~e
New York (Massey & Chupp), Pennsylvania (Orton), and Indiana - serious in greenhouse. (Gardner)
Reference: Bewley, W. F. Report of the Mycologist Ann. Rept. Exp. and Res. Sta. Nursery & Market Garden. Industr. Dev. Soc. 7(1921): 32-41. 1922.

CAMELLIA (Camellia japonica)
Leaf spot caused by Pestalozzia inquinans C. & Hark.
South Carolina (Ludwig.)

Leaf spot caused by Didymella (?) sp.
South Carolina (Ludwig)

CARNATION (Dianthus caryophyllus)
Rust caused by Uromyces caryophyllus (Schw.) Wint.
Reported from Connecticut, New York, Ohio, Indiana, Illinois, Minnesota, and Colorado. In most cases it is chiefly a greenhouse disease.

Stem rot and wilt caused by Fusarium sp.
New York - found in a greenhouse at Bulls Head, Staten Island. (Massey)
Pennsylvania - in greenhouse and field causing 50% or more loss. (Orton and Thurston)
Florida - specimens were received from Pensacola which were badly infected. (Burger)
Ohio - (Detmers)

Root knot caused by Heterodera radicicola (Greef) Müller.
South Carolina - the plants were propagated out of doors in infested soil and later when the plants were brought into the college greenhouse they did very poorly. (Ludwig)
Ohio - first report. (Detmers)

Alternariose caused by Alternaria dianthi S. & H.
New York - severe in several greenhouses causing considerable loss. (Massey)
Previous reports from Connecticut, Pennsylvania, Maryland, North Carolina and Minnesota.

Chlorosis, cause unknown

Ohio - first report, general and throughout state, considerable in greenhouses, causing spotting of foliage and general debility. (Detmers)

White tip - probable cause fumigation with tobacco preparations.

Connecticut - one report. (Clinton)

CHRYSANTHEMUM (Chrysanthemum hortorum)

Powdery mildew caused by Erysiphe cichoracearum DC.

Delaware - local in distribution; prevalent in greenhouse propagation; small pom-pom varieties very susceptible. (Adams)

Leaf spot caused by Septoria chrysanthemi Cav.

Texas - trace (Taubenhaus)

COTONEASTER (Cotoneaster horizontalis)

Phyllosticta horizontalis

North Carolina - (Collins)

DAHLIA (Dahlia spp.)

Powdery mildew caused by Erysiphe cichoracearum DC.

West Virginia - slight, probably occurring too late to be of any importance. (Sheldon)

Root rot caused by Pythium debaryanum Hesse

Connecticut - little injury, local. (Clinton)

Root knot - caused by Heterodera radicicola (Greef) Müller.

California - general and widespread in Los Angeles Co. (Fields)

Recent literature

Essig, E. O. Nematode attacking dahlia tubers. Month. Bull Dept. Agr. Calif. 11:465-466. May. June. 1922.

Wilt caused by Bacterium solancearum EFS.

North Carolina - See COSMOS. Wolf, F. A. Additional hosts for Bacterium solancearum. Phytopath. 12: 98-99. Feb. 1922.

Mosaic or yellows caused probably by an obscure physiological trouble.

Connecticut - three reports, one grower reporting a 30% loss and that the trouble has continued to progress during the last few years. (Clinton)

DIGITALIS PURPUREA

New abnormality

Recent literature

Pater, B. Eine neuere abnormitaten Digitalis purpurea L. Zeitschr. Pflanzen 32: 97-102. illus. 1922.

CLEMATIS (Clematis virginiana)
Rust caused by Puccinia agropyri Ell. & Ev. (Puccinia clematidis Lagh.)
Minnesota - one report (Sect. Pl. Path.)

COSMOS (Cosmos sp.)
Wilt caused by Bacterium solancearum EFS.
North Carolina - specimens from a garden in Raleigh, August, 1921, tops of plants show sudden wilting and dropping; may recover temporarily during night, but after several days leaves shrivel, become dry and remain attached to plant, which ultimately dies. Wolf, F. A. Additional hosts for Bacterium solancearum. Phytopath. 12: 98-99. Feb. 1922.

EVONYMUS Evonymous atropurpurea)
Powdery mildew caused by Microsphaera alni (Wal.) Salm.
Illinois - about a 25% affection is found in the state. Tehon

EVONYMUS, JAPANESE (Evonymus japonicus)
Powdery mildew caused by Oidium evonymi japonici (Arc.) Sacc.
Louisiana - common in northern part of state; first report of this trouble in the United States. Collected at Shreveport, Caddo Parish in April; also collected in Bossier Parish; earliest reported appearance, March 18. (Edgerton)

EVONYMOUS spp.
Anthracnose caused by Gloeosporium sp.
Texas - prevalent. (Taubenhaus)

Leaf spot caused by Exosporium concentricum. Heald & Wolf.
Texas - prevalent (Taubenhaus)

FLOWERING CRAB (Pyrus spp.)
Rust caused by Gymnosporangium juniperi-virginianae Lk. (Roestelia pyrata Thaxt.)
Connecticut - locally little injury. (Clinton)
Indiana - local (Gardner)

FUCHSIA (Fuchsia sp.)
Mosaic caused by physiological factors.
Connecticut - on greenhouse plant affected at New Haven; cuttings from the mosaic stem came mosaiced; others from healthy stems of same plants came healthy but inoculation experiments failed. (Clinton)

GERANIUM (Pelargonium sp.)
Bacterial leaf spot caused by Bacterium erodii Lewis
Connecticut - becoming more prevalent, very bad at Storrs in a flower-bed; this disease has been noticed once or twice before but this is the first time that it was definitely determined as a bacterial disease. (Clinton)

Indiana - worse than in previous years; destructive locally; occurred in a greenhouse and later in a garden; the causal organism was isolated. (Gardner)

In 1903 G. E. Stone (Mass.) reported a bacterial blight as having been common that summer; at that time it was apparently increasing and spreading throughout the United States. As early as 1898, attention had been called to this disease by Stone. From that time on it has been growing more and more common each year and becoming more widely disseminated.

In 1909 Norton (Md.) reported a leaf spot in the geranium supposedly caused by bacteria. Selby (Ohio) in 1911 reported a bacterial disease on this host, commenting then that it required study.

According to Lewis[1], Heald and Wolf reported the bacterial disease in the vicinity of San Antonio, Texas, in 1912. E. L. Jensen (Minn. 1916) found bacterial leaf spot, cause not determined, to be moderately severe in greenhouses. Both Ohio and Minnesota reported its occurrence again in 1916 and in 1917 Selby and Heald reported leaf spot and bacterial blight as caused by Bacterium (Pseudomonas) erodii as occurring in Ohio and Idaho respectively. Again in 1918 it was reported by Selby and Heald, the latter reporting this time its occurrence in Washington. In 1912 Clinton (Conn.) and Gardner (Ind.) reported it worse than in previous years; in Connecticut it is becoming more prevalent, and also that it had been noticed once or twice before but had not therefore been definitely determined.

Literature

(1) Lewis, I. M. A bacterial disease of Erodium and Pelargonium. Phytopath. 4: 221-231. 1914.

Stone, G. E. Bacteriosis of geranium. Ann. Rep. Massachusetts Agr. Exp. Sta. 19: 164. (1905/06)

Leaf spot caused by Botrytis sp.

First reports to the Plant Disease Survey were received in 1908 from J. B. S. Norton of Maryland, at which time he found it at Baltimore and College Park; he reports it again in 1909. A single instances was noted by G. H. Coons (Mich.) in a greenhouse in Joseph County during 1913. No further reports were made to this office until 1920 when L. E. Melchers (Kansas) reported it as occurring in several counties and that a distinct blight to the flowers and a leaf spot of the foliage occurred, also that investigations at that time showed the causal organism similar, if not the identical species causing lettuce head mold, and that cross inoculations had verified it. The same year Selby (Ohio) reported green mold in Madison County. Again in 1921 this trouble was reported from Ohio and Kansas; in the latter state it was quite serious. Melchers (Kans.) reported a moderately severe local occurrence again in 1922.

Reference

Melchers, L. E. Botrytis sp. causing severe injury to flowers and foliage of Pelargonium hortorum. Phytopath. 8: 76. 1918.

Dropsy - physiological

Ohio - general throughout state; chiefly in greenhouses; seen to some extent outside. (Detmers)

In 1909 Selby (Ohio) reported this somewhat general in distribution over the state and that the trouble was caused by over-watering and in 1910 suggested as treatment a regulation of the water supply. Its occurrence has been reported from Ohio each succeeding year up to and including the present, where it is usually found in the greenhouses although it has been seen in outside gardens.

GLADIOLUS (Gladiolus sp.)

Fusarium rot caused by Fusarium sp.

New York - a storage rot, found in experiment plantings at Ithaca. Doubtless occurred in practically all plantings in state. (Massey)

Ohio - first report of this disease for state; nature of injury is that it forms scabs on cor and impairs vigor; Brenchleyensis variety most susceptible. (Detmers)

Dry rot caused by Sclerotium sp.

New York - a storage rot found in corms from experimental plantings at Ithaca; doubtless occurs in all plantings in state. (Massey)

Sclerotinia dry rot caused by Sclerotinia sp.

Ohio - first report from state; causes a rotting of corms; the variety "War" apparently very susceptible. (Detmers)

Hard rot caused by Septoria gladioli Pass.

New York - storage rot; premature death of plants. (Massey)

Indiana - (Gardner)

Leaf blight, cause uncertain.

Washington - (Dana)

GOLDEN GLOW (Rudbeckia lacinata)

Powdery mildew caused by Erysiphe cichoracearum DC.

Connecticut - appeared August 6 at Westville, New Haven County. (Clinton)

West Virginia - abundant in several yards about Morgabtown. (Sheldon)

HELLEBORE (Helleborus niger.)

Coniothyrium hellebori Cke. & Mass.

Oregon - PHN5)

HIBISCUS - (Hibiscus sp.)

Rust caused by Puccinia malvacearum Mont.

Montana - 100% local infection. (Christopher)

HOLLYHOCK (Althea rosea)

Rust caused by Puccinia malvacearum Mont. = (Micropuccinia malvacearum (Bertero) Arth. & Jackson)

Reported from Vermont, New Hampshire, Massachusetts, Connecticut, New York, Indiana, Colorado and Arizona

Vermont - average amount; 75% crop injury; loss insignificant; interesting to note that in spite of wet June the rust was not more abundant than usual. (Lutman)

Massachusetts - about usual amount, general in range; an evident varietal resistance. (Osmun)

New York - average amount and very important. (Massey)

Ohio - more reports than in 1921; favorable weather conditions in June. (Detmers)

Colorado - unimportant; moisture conditions below normal, temperature above normal. (Learn)

Arizona - Snowflake only variety resitant. (George)

Root rot caused by Ozonium omnivorum Shear

Texas - fairly important - about a 5% reduction. (Taubenhaus)

Leaf spot caused by Cercospora althaeina Sacc.

Delaware - found in September at Newark, New Castle County. (Adams)

Ascochyta sp.

West Virginia - very abundant in two yards at Morgantown, the foliage of the plants being nearly destroyed. (Sheldon)

HYDRANGEA (Hydrangea hortensia)

Leaf spot caused by Phyllosticta hydrangeae Ell. & Ev.

South Carolina - Florence County, May 27. (Ludwig)

IMPATIENS BALSAMINA

Rust caused by Puccinia impatientis Arth.

Ilinoia - found in Hamilton, Jefferson and Wayne Counties. (Tehon)

IRIS (Iris spp.)

Leaf spot caused by Didymellina iridia (Desm.) Von, H. = (Heterosporium gracile) (Wal.) Sacc.

Reported from Connecticut, New York and Minnesota.

Soft rot caused by Bacillus carotovorus Jones

Connecticut - average amount. (Clinton)

Minnesota - produces a soft rot of the rhizomes; observed only in Ramsey County; very high humid weather conditions; one acre field on low, wet land practically a total loss; organism was isolated from diseased tissue and was found to rot vegetables readily. (Sect. Pl. Path.

KENTIA BALMOREANA

Colletotrichum kentiae Halsted

New Jersey - South Orange. (PHN5)

KUDZU (Pueraria thunbergiana)
Leaf spot - cause undetermined
Kentucky - (Valleau)

LARKSPUR (Delphinium sp.)
Blight caused by Bacterium delphinii EFS.
Connecticut - three reports; a rather serious trouble when present. (Clinton)

Wilt - caused by Fusarium sp.
Florida - this disease was reported from Duval County where it was said to be serious in a certain estate. (Burger)

LAUREL - (Laurus nobilis)
Gloeosporium nobili
New Jersey -(Collins)

LAUREL (Laurus sp.)
Sphaeropsis sp.
South Carolina - (Collins)

LAVENDER (Lavandula sp.)
Pholiota praecox (Pers.) Quelet

Literature:
Chevalier, Augusté. Sue une maladie de la lavande cultivée. Rev. Bot. Appl. 2:482-483. Sept. 1922.

LILAC (Syringa spp.)
Powdery mildew caused by Microsphaera alni (Wallr.) Salm.
Reported from Connecticut, Delaware, Ohio, Illinois, Minnesota, Iowa, and California. (See map for distribution in United States)

LONICERIA TARTARICA
Powdery mildew caused by Microsphaera alni var. lonicerae (DC.) Salm.
Minnesota - observed only in Scott and Blue Earth Counties. (Sec.Pl.Path)

LUPINE (Lupinus spp.)
Powdery mildew caused by Erysiphe polygoni DC.
Idaho, Oregon - common but of no importance. (Boyce)

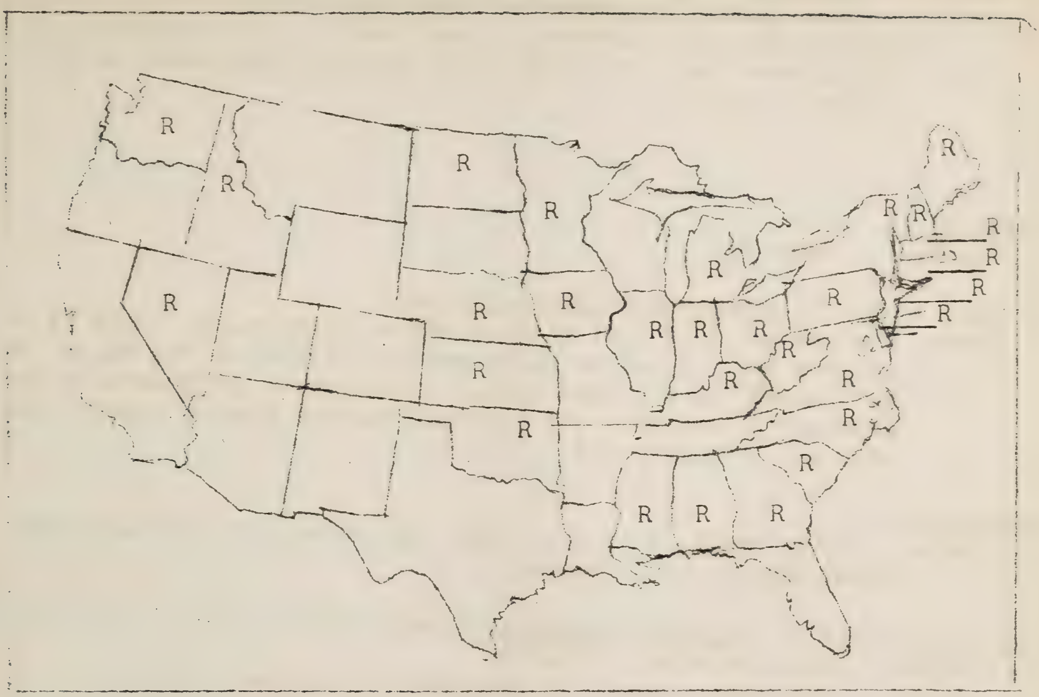

Fig. Geographical distribution of *Microsphaera alni* on Syringa spp. in the United States as reported to the Plant Disease Survey.

MATRIMONY VINE (Lycium sp.)

Powdery mildew caused by *Erysiphe polygoni* DC.

Delaware and West Virginia (100% infection - caused defoliation. (Sheldon)

Rust caused by *Puccinia lycii* Kalchbr.

Ohio - (Detmers)

MONARDA (Monarda sp.)

Coleosporium narcissi Grove

Literature:

Grove, W. B. Coleosporium narcissi sp. n. Journ. Bot. 60: 121-122. Apr. 1922. no. 712.

OCEAN SPRAY (Holodiscus discolor)

Powdery mildew caused by *Podosphaera oxyacanthae* (DC.) deBy

Idaho - rare; does little damage.(Boyce)

OSAGE ORANGE (Maclura pomifera)

Rust caused by *Physopella fici* (Cast.) Arth.

Reported in former years in Louisiana, also an additional report in North American Flora 7^2:103.

OXALIS (Oxalis sp.)

Rust caused by Aecidium oxalidis Schw.

Florida - this disease was reported from two sections of the state, Palm Beach and Bradentown. Since this is the aecidial stage of the corn rust, it is of great economic importance in the state. (Burger)

PALM

Alternaria sp.

Florida - (Burger)

Leaf spot caused by Exosporium palmivorum Sacc.

Texas - a serious leaf spot of green-house grown palms; seems to be serious only if potted palms remain too long in the shade; by cutting off the diseased foliage and placing the plants to the exposure of sunlight and ventilation, the disease seems to be checked. (Taubenhaus)

Gloeosporium sp.

Florida - found on the fish-tail palm and was said to be doing considerable damage. (Burger)

False smut caused by Graphiola phoenicis (Mong.) Poit.

Florida - quite abundant. (Burger)

Louisiana - common, caused a slight loss. (Edgerton)

Leaf blight caused by Pestalozzia palmarum Cke.

Texas - infection with the causal fungus invariably takes place at axil of the leaf; the fungus may be readily grown in pure culture and artificial inoculations carried out. (Taubenhaus)

Pestalozzia sp.

Florida - common. (Burger)

Recent literature

La Rue, Carl D. and H. H. Bartlett. A demonstration of numerous distinct strains with the nominal species Pestalozzia guepini Desm. Amer. Jour. Bot. 9: 79-92. Sumatra, Feb. 1922.

PANSY (Viola tricolor)

Rust caused by Puccinia violae (Schum.) DC.

North Dakota - (Weniger)

Powdery mildew caused by Sphaerotheca humuli (DC.) Burr.

Washington - (Dana)

PEONY (Paeonia officinalis)

Blight, bud rot and leaf spot caused by Botrytis spp.

Has been observed in past five years in New Hampshire, Massachusetts, Rhode Island, New York, New Jersey, Pennsylvania, Ohio, Indiana, Michigan, Minnesota, Utah, Idaho, and Washington.

New York - prevalent in practically all plantings. (Massey)

Ohio - more prevalent than in 1921; rots stems and leaf bases; rather general over state; greatest damage from May to July when the host is in leaf; weather relations during past year very favorable to disease. (Detmers)

Indiana - serious locally. (Gardner)

Minnesota - usual amount of prevalence; causes brown rot on stems at soil line on buds, leaves and young branches; observed only in Ramsey and Stevens Counties. Injury develops very rapidly on days when the temperature is high and the atmosphere humid. (Sect. Pl. Path.)

Leaf spot caused by Cladosporium paeoniae Pass.

Ohio - one report; causes discoloration of leaves. (Detmers)

Bud rot caused by Phytophthora sp.

Kansas - one report May 17 at Shawnee. (White)

Rot caused by Sclerotinia sp.

Ohio - reported from Cuyahoga County, June 9. (Detmers)

Root knot caused by Heterodera radicicola (Greef) Müller

Ohio - causes a root infection. (Detmers)

PERIWINKLE (Vinca major)

Leaf spot caused by Sphaeropsis vincae

Illinois - produced serious defoliation of greenhouse plants; March 22, 1923 date reported; routine applications of Bordeaux Mixture failed to control the disease; results of specially timed applications were not evident at time of reporting. (Tehon)

PERIWINKLE (Vinca sp.)

Bastard blossom - cause unknown

Texas - affected plants have abnormal proliferated blossoms. (Taubenhaus)

PHLOX (Phlox sp.)

Powdery mildew caused by Erysiphe cichoracearum DC.

Connecticut - more prevalent. (Clinton)

New York - Oneida and Sullivan Counties. (Massey)

Maryland - rather common; little damage except to foliage. (Martin)

West Virginia - very abundant where present in Morgantown; mites caused so much injury that it was difficult to tell about the mildew. (Sheldon)

POINSETTIA (Euphorbia pulcherrima)

Leaf spot caused by Actinonema sp.

Florida - local. (Burger)

PRIMROSE (Primula sp.)

Gray mold caused by *Sclerotinia fuckeliana* (DeBy) Fckl. = (Botrytis cinerea Pers.)

South Carolina - unimportant in 1922; range in northwest part of state. (Ludwig)

PRIVET, CALIFORNIA (Ligustrum ovalifolium)

Shot hole - cause unknown

Texas - the disease first appears as tiny minute cracks and spots which later drop out; repeated cultures of the spots failed to yield an organism. (Taubanhaus)

PRUNUS TRILOBA var. PLENA

Fire blight caused by *Bacillus amylovorus* (Burr.) Trev.

An account of a new host for the fire blight organism in Wisconsin was published this year by Laetitia M. Snow[1]. The new host is an ornamental shrub, *Prunus triloba* var. *plena*. The organism was isolated and pathogenicity determined with additional strains of the organism on known susceptible hosts. The importance of this host is concerned with its possibility of wintering over the organism in the vicinity of commercial orchards.

Literature

[1] Snow, Laetitia M. A new host for the fire blight organism, *Bacillus amylovorus*. Phytopath. 12: 517-524. Nov. 1922.

QUINCE, JAPANESE FLOWERING (Chaenomeles japonica)

Rust caused by *Gymnosporangium germinale* (Schw.) Kern

Connecticut - new host for this rust in the state; small per cent of affected plants. (Clinton)

RHODENDRON (Rhodendron californicum)

Witches broom caused by *Exobasidium vaccinii* (Fckl.) Wor.

Oregon - common; the perennial, large dense brooms are quite striking in appearance (See Phytopathology 10^{5}?. Pl. 11. Fig. 3. May 1920). While an entire bush may be badly deformed the disease does not kill the host. It is of no economic importance, but might become so where this shrub was used for economic purposes. (Boyce)

Leaf rust caused by *Melampsoropsis piperiana* Arth.

Oregon - Not uncommon, injury to host slight. (Boyce)

Leaf spot caused by *Cryptostictis* sp.

Oregon - not important since the host is not economically valuable. (Boyce)

RHODENDRON (Rhodendron midiflorum)

Witches broom caused by *Exobasidium vaccini* (Fckl.)

Pennsylvania - (Overholts)

RHODODENDRON (Rhododendron sp.)

Leaf spot caused by Pestalozzia guepini Desm. var. vaccinii Sh.
Delaware - found at Hollyoak, New Castle County, in May. (Adams)

Melampsoropsis rhododendri
New Jersey - (Collins)

ROSE (Rosa spp.)

Powdery mildew caused by Sphaerotheca spp.

Powdery mildew which was reported from 23 states, was more prevalent than in past years in Massachusetts, Delaware, West Virginia, Louisiana, Texas, Arkansas, and Ohio. The Ramblers and Dorothy Perkins were affected the most in Massachusetts, Connecticut, Delaware, Louisiana, Arkansas, and Colorado.

Dates of first appearance;

April, Louisiana
" 11, Ohio
May 13, Indiana
May 22, Delaware
May 23, Kansas
May 24, Missouri
June 5, North Dakota
June 12, Connecticut
June 19, West Virginia
June 22, New Hampshire
September 22, Minnesota

Literature

Massey, L. M. Black spot and mildew of roses. Amer. Rose Ann. 1922. p. 77-88.

Seifert, Ein Neues mittel gegen meltau. Garteuw. 26: 175. illus. April 28, 1922. ("Elosal" experiments with Lady Gay and Dorothy Perkins roses)

Leaf blotch caused by Actinonema rosae (Lib.) Fr. = (Diplocarpon rosae Wolf)
Massachusetts, Connecticut, New York, Delaware, West Virginia, South Carolina, Florida, Louisiana, Texas, Ohio, Indiana, Illinois, Missouri, Colorado, Washington, California. Past reports show this disease occurring in practically all the states.

Dates of first appearance:

January, Louisiana
May 20, Missouri
May 31, South Carolina
June 9, Illinois
June 10, Indiana
June 25, Connecticut
July 2, New York
August, Florida
August 4, Ohio
August 9, West Virginia
September, Delaware

Literature

See powdery mildew

ROSE, WILD (Rosa spp.)

Rust caused by Phragmidium rosae-californicae Diet.
Oregon - common; deforms the fruits, stems and young stems of the host. (Boyce)

Leaf rust caused by Phragmidium montivagum Arth.
British Columbia - causes little injury. (Boyce)

Rust caused by Phragmidium spp.
Vermont, Massachusetts, Connecticut, New York, Minnesota, North Dakota, Washington, and Virginia.
Vermont - very common. (Lutman)
Massachusetts - of little importance; general on both greenhouse and hardy varieties. (Osmun)
Connecticut - common on wild species and spreading to cultivated. (Clinton)
North Dakota - becoming more prevelant, general in range; the wild rose is a common weed in the state in grain fields, hence the rose rust attracts some attention. (Weniger)
California - general and widespread on cultivated and wild roses. (Fields)

Rust caused by Earlea speciosa (Fr.) Arth.
Washington - abundant at Pullman. (Dana)

Rust caused by Earlea spp.
North Dakota - (Weniger)

Crown gall caused by Bacterium tumefaciens EFS. & Town.
Massachusetts, Connecticut, South Carolina, and Washington.
Massachusetts - frequent on Manetti stock and greenhouse roses. (Osmun)

Anthracnose caused by Gloeosporium rosae Hals.
South Carolina and Texas.

Canker or cane blight caused by Leptosphaeria coniothyrium (Fckl.) Sacc.= Coniothyrium fuckelii Sacc.)
Texas and Colorado-reported from one Denver greenhouse. (Learn)

Leaf spot caused by Marssonina sp.
Ohio - first report; causes a spotting of leaves - of general state distribution. Unfavorable weather conditions during year for the disease. (Detmers)

Botrytis rot caused by Botrytis sp.
Texas - (Taubenhaus)

Texas root rot caused by Ozonium omnivorum Shear
Texas - prevalent, reducing yield about 1%. (Taubenhaus)

Anthracnose caused by Myxosporium rosae Fckl.
West Virginia - observed only on R. setigera in a planting in Morgantown; caused a defoliation and cane injury. (Sheldon)

Canker caused by Botryosphaeria dothidea Ces. & De Not.

Literature

Bol. Agr. Sao Paulo 23: 84-87. illus. Mar./Apr. 1922.

Mosaic (?)

Texas - a condition resembling mosaic of rose foliage was found by J. J. Taubenhaus in two localities in the state. The disease had all indications of being mosaic although up to the time of the report no inoculation experiments had been definitely carried out to determine the true cause of the trouble.

Chlorosis caused by too much lime.

Texas - prevalent - about 1% reduction in yield was caused. (Taubenhaus)

Winter injury

Washington -(Heald)

SALMON BERRY (Rubus spectabilis)

Leaf spot caused by *Septoria rubi* West

Oregon - common and of no importance. (Boyce)

SNAPDRAGON (Antirrhinum spp.)

Rust caused by *Puccinia antirrhini* Diet. & Holw.

Reported in 1922 from Mississippi, New York, Delaware, Florida, Ohio, Indiana, Illinois, Minnesota, Kansas, Colorado, Washington, and California. Those reporting the presence of this disease in their state are Delawae, Florida, Illinois, Minnesota, amd Colorado. To date the following states have reported snapdragon rust present during the past years: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, South Carolina, Florida, Texas, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, Colorado, Arizona, Utah, Washington, Oregon, and California.

Heavy local infection present in Connecticut, Minnesota and California. In Illinois the disease was general throughout the state and local in Florida, Ohio and Indiana; thought to be more widespread than reports indicate, and in Delaware rust was more prevalent than any previous years and much more than in 1921. Certain greenhouse varieties at the Connecticut Station were more susceptible than others; appeared also on greenhouse stock in Ohio, Indiana and Colorado. In Massachusetts the resistant varieties are apparently more generally grown than formerly as shown by the disease not being as serious as in past years.

Earliest reported dates of appearance are as follows:

April 1, Ohio
May 30, Connecticut
June 9, Illinois
July 3, New York and Indiana
July 7, Delaware and Minnesota
August, Colorado
September 8, Kansas

Recent literature

Butler, Ormond Rourke. How to control the snapdragon rust. Florists' Ex. 43: 353. F. 17. 1917.

____________ Field control of the snapdragon rust. Florists' Ex. 48: 951. 1919. Bot. Absts. 4. no. 1. July, 1920.

Doran, William L. Controlling snapdragon rust. Value of copper and sulphur. Florists' Ex. 43: 501. Mr. 3. 1917. Phytopath.

Hockey, J. F. Germination of teliospores of Puccinia antirrhini. Ann. Rep. Quebec Soc. Prot. Plants 13 (1920/21): 54-57. illus. 1921.
Bibliography. p. 57.

Lehenbauer, P. A. Snapdragon rust. Amer. Flor. 55: 865-866. illus. N. 13, 1920. no. 1693.

Pammel, Louis Herman and C. C. Rees. A new rust of economic importance on the cultivated snapdragon. (Abstract) Phytopathology 4^6: 400. December, 1914.

Peltier, George L. Snapdragon rust. Illinois Agric. Sta. Bul. 221: 535-548. 5 fig. 1919. Bot. Absts. 3. No. 6. June, 1920.

Thurston, Henry Winfred, Jr. Puccinia antirrhini. Phytopathology 9: 330. Aug. 1919. Phytopath. September, 1919.

Anthracnose caused by Colletotrichum antirrhini Stewart

Delaware (Adams), Ohio (first report for state, attacked greenhouse plants. (Detmers)

Previous reports and year first reported to Plant Disease Survey: Massachusetts (1916), New York (1915), New Jersey (1915), Pennsylvania (1913), Delaware (1922), Ohio (1922), Indiana (1915), Michigan (1912).

Wilt caused by Fusarium sp.

Florida - local and said to be doing much damage. (Burger)

Phyllosticta antirrhini Syd.

Virginia - Warrenton (PHN5)

Recent literature

Guba, E. F. and P. J. Andrews. Phyllosticta leaf spot and damping off of snapdragon. Phytopath. 9: 315-325. 1919. Bot. Absts. 4. No. 1. July 1920.
Symptoms of the disease and cultural characteristics of Phyllosticta antirrhini in Antirrhinum majus are given. Wounding is not necessary for infection. High air and soil humidities favor a severe attack of the fungus. All types of the disease except the damping off may be controlled by the use of Bordeaux mixture (4:4:50). H. Johann.

Smiley Edwina M. The Phyllosticta blight of snapdragon. Phytopath. 10: 232-248. 8 fig. 1920. Bot. Absts. 8. no. 2. June, 1921. Antirrhinum majus is the only host known to be affected by Phyllosticta antirrhini. Symptoms, etiology, and pathological effects of the disease are discussed.- Ruth G. Bitterman.

Cladosporium sp.

Ohio - first report in state - appeared April 2 in a greenhouse in Sandusky County. (Detmers)

Stem rot cause unknown

New York - (Massey)

Mosaic cause undetermined

Ohio - first report for state, produced a mottling of leaves and blossoms of snapdragon in a greenhouse in Sandusky County. Appeared April 15. (Detmers)

Verticillium wilt caused by Verticillium albo-atrum McA.

Literature

Bewley, W. F. Sleepy disease or wilt of tomato. Nursery and Market Garden, Ind. Dev. Soc. Exp. & Research Sta. Ann. Rpt. 1920: 30. 1921. Snapdragon infected artificially

Verticillium wilt caused by Verticillium sp.

Literature

Brown, Nellie Adalesa. A snapdragon wilt due to Verticillium. Phytopath. 4. no. 3: 217. June, 1914.

SNOWBERRY - (Symphoricarpus orbiculatus)

Powdery mildew caused by Microsphaera diffusa Cke. & Pk.

Illinois - probably ranges throughout state, injury caused chiefly that of the disfiguring appearance of host. (Tehon)

SNOWBERRY (Symphoricarpus racemosus)

Powdery mildew caused by Microsphaera symphoricarpi Howe

Idaho - found occasionally; causes little injury. (Boyce)

SNOWBERRY (Symphoricarp~~u~~os spp.)

Powdery mildew caused by Microsphaera diffusa Cke. & Pk.

Washington - (Dana)

Rust caused by Aecidium abundans Pk.

Idaho - (Dana)

SPIRAEA (Spiraea opulifolia var. aurea)

Powdery mildew caused by Sphaerotheca humuli (DC.) Burr.

Connecticut - a new host to state. (Clinton)

SWEET PEA (Lathyrus odoratus)

Powdery mildew caused by Microsphaera alni (DC.) Wint.

West Virginia - abundant where present in Morgantown. (Sheldon)

North Dakota - unimportant, May 24 at Grafton. (Weniger)

Black root rot caused by Thielavia basicola (B. & Br.) Zopf.
Connecticut - present in a greenhouse. (Clinton)
Ohio - first report for state - found in a greenhouse causing a dampingoff condition. (Detmers)

Root rot caused by Pythium debaryanum Hesse
Connecticut - local. (Clinton)

Root rot caused by Rhizoctonia sp.
Massachusetts - has rendered the growing of sweet peas a failure in many localities, it is so very serious; reported as questioned whether it is a Rhizoctonia or a Fusarium sp. (Osmun)
Washington - (Dana)

Mosaic - cause undetermined
Ohio - one report only; causes a mottling of leaves and blossoms; present in a greenhouse. (Detmers)

SYRINGA (Philadelphus sp.)
Shot hole, cause not determined
Ohio - (Detmers)

THIMBLE-BERRY (Rubus parviflorus)
Leaf spot caused by Septoria rubi West
Idaho -fairly common, but does little damage. (Boyce)

Macrophoma sp.
District of Columbia - (Collins)

VIOLET (Viola spp.)
Black root rot caused by Thielavia basicola (B. & Br.) Zopf.
New York - (Massey)

Leaf spot caused by Phyllosticta violae Desm.
South Carolina - unimportant (Ludwig)

Powdery mildew caused by Sphaerotheca humuli var. fuliginea (Schlecht) Salm.
Minnesota - observed only in Ramsey County. (Sect. Pl. Path.)

Soft rot caused by Bacillus carotovorus Jones

Literature
Lacey, Margaret S. Studies in bacteriosis. VI Bacillus carotovorus as the cause of soft rot in cultivated violets. Ann. Appl. Biol. 9: 169-170. June. 1922. no. 2

WASHINGTONIA FILIFERA
Phoma palmicola Wint.
Texas - (PHN5)

YUCCA (Yucca sp.)
N Neottiospora yuccaefolia Hall
Georgia - Fort Valley. (Dunegan)

ZINNIA (Zinnia sp.)
Powdery mildew caused by Erysiphe cichoracearum DC.
West Virginia - found late in season on a few plants. (Sheldon)
Texas - frequently a common foliage disease of the zinnia during wet seasons or as the plant becomes old. Only the conidial or oidium stage was found. (Taubenhaus)
Illinois - ordinarily, zinnias are considered very hardy and subject to few diseases. During wet weather, however, the foliage is frequently killed by this fungus. (Taubenhaus)

DISEASES OF MISCELLANEOUS PLANTS

ASTER sp.
Rust caused by Coleosporium solidaginis (Schw.) Thüm
Colorado - Ft. Collins, Larimer Co., September (Learn)

BORAGE
Rio Grande Disease
Texas - a new host; a weed which is used by the Mexicans as a food for burros. (Taubenhaus)

BURSA BURSA-PASTORIS
White rust caused by Albugo candida (Pers.) Kuntze
Oklahoma - there was favorable warm moist weather for the disease. (Stratton)
California - general and widespread. (Fields)

Recent literature

Petrescu, C. Contribution a l'etude biologique de la flore de Moldavie, champignons parasites des cruciferes. Compt. Rend. Soc. Biol. Paris 87: 748-749. Jl. 1922. No. 27. Cystopus candidus and Peronospora parasitica on Capsella bursa-pastoria.

CACTUS
Charcoal spot caused by Perisporium wrightii B. Nc.
Texas - this fungus was readily isolated and although perithecia were formed, there was not a single instance of their maturing; the spores as found in the perithecia on the host were incapable of germinating and it is difficult to explain how this disease has spread and assumed such wide proportions. (Taubenhaus)

Damping-off, cause not fully determined.
Texas - frequently when cactus joints have been planted in wet soil, they dampoff within a week or ten days after being planted. (Taubenhaus)

CEANOTHUS VELUTINUS ceanothi

Cylindrosporium ~~*ceanthi*~~ Ell. & Ev.

Oregon - common, elevation 1800 feet. (Boyce)

COFFEE (Coffea spp.)

Leaf spot caused by *Cercospora coffeicola* Berk. & Cke.

Recent literature

Welles, C. G. Cercospora leaf spot of coffee. Philipp. Jour. Sci. 19: 741-745. Dec. 1921.

Summary: -

"Leaf spot of coffee, caused by *Cercospora coffeicola* Berkeley & Cooke has been found on nursery stock of the College of Agriculture, Los Banos Laguna.

"This is known as 'brown eye spot', 'brown eyed disease' or 'berry spot.'

"In the Philippines attack is confined to leaves and therefore it is not very serious. It may spread to berries and become more dangerous. It is found only on *Coffea bukobensis*. The source of the disease is unknown. The causal organism checks with the previously described *Cercospora coffeicola* Berkeley & Cooke. The disease was controlled by spraying every two weeks with Bordeaux mixture."

COREOPSIS (Coreopsis spp.)

Rust caused by *Coleosporium inconspicuum* (Long) Hedgc. & Long

The following distribution summary is of interest, taken from article by Hedgcock, Geo. A. and N. Rex Hunt. Notes on some species of Coleosporium I. Mycologia 14: 244-257. Pl. 20-21. Sept. 1922.

Coreopsis delphinifolia: Tennessee
C. lanceolata: North Carolina, Tennessee
C. major: Georgia, North Carolina, South Carolina, Tennessee
C. major oemleri: Georgia, North Carolina, Tennessee, Virginia.
C. major rigida: Georgia, North Carolina, Tennessee
C. tripteris: Georgia, Tennessee
C. verticillata: D.C., Maryland, North Carolina, Virginia
Range from Maryland and Michigan south to Georgia and west to Tennessee.

CRYPTANTHA INTERMEDIA

Synchytrium myosotidis Kuehn.

California - Los Angeles, Apr. 22 (PHN5)

DATURA STRAMONIUM (Jimson weed)

Leaf blight caused by *Alternaria crassa* (Sacc.) Rands

Illinois - Goreville, Johnson County. (Tehon)

DATURA TATULA (Purple tatula)
Leaf blight caused by *Alternaria crassa* (Sacc.) Rands
Illinois - East Carondelet, St. Clair County. (Tehon)

DIODIA TERES (Button weed)
Rust caused by *Puccinia lateritia* Berk. & Curb. =
(*Puccinia spermacoces* B. & C.)
Illinois - Creal Springs, Williamson County. (Tehon)

DOCK (Rumex occidentalis)
Leaf spot caused by *Sphaerella rumicis* (Desm.) Ell.
Oregon - not important. (Boyce)

DUCHESNEA INDICA
Perpnospora potentillae DeBy.
North Carolina - Winston, Salem, Apr. 24. Coll. B. O. Dodge (PHN5)

ERIGERON ANNUUS
Ophiobolus tenellus (Auersw.) Sacc.
Virginia - Fairfax County, June 27. Coll. Ricker & Diehl. (PHN5)

ERODIUM MOSCHATUM
Synchytrium papillatum Farl.
Recent literature
McMurphy. Notes on Synchytrium. (Abst.) Phytopath. 12:442. Sept. 1922.

EUPHORBIA spp.
Uromyces spp.
Recent literature
Mains, E. B. Evidence of the seed carriage of the Euphorbia rusts, Uromyces proeminens and Uromyces dictosperma. Proc. Indiana Acad. 1921: 137-139. 1922.

EUTHAMIA spp.
Rust caused by *Coleosporium delicatulum* (Arth. & Kern) Hedgc. & Long
Distribution as collected in the United States and as reported by Hedgcock, G. G. & N. Rex Hunt. Notes on some species of Coleosporium. I. Mycologia 14: 244-257. Pl. 20-21. Sept. 1922.
Euthamia caroliniana - New Jersey & Florida.
Euthamia graminifolia - Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, Indiana, Illinois, Missouri, and Kansas.
Euthamia leptophylla - Louisiana and Texas

FERN, BRAKE (Pteridium aquilinum pubescens)
Fir fern rust caused by Uredinopsis mirabilis (Pk.) Magn.
British Columbia - does not injure the host. (Boyce)

FIREWEED (Epilobium augustifolium)
Fir fireweed rust caused by Pucciniastrum pustulatum (Pers.) Diet.
Idaho and British Columbia - results in premature reddening of infected leaves. (Boyce)

GAYLUSSACIA sp. (Huckleberry)
Rust caused by Pucciniastrum myrtilli (Schum.) Arth.
Pennsylvania - not very injurious; collected in July. (Overholts)

GOLDEN SEAL (Hydrastis canadensis)
Alternaria blight caused by Alternaria sp.
New York - reported in 1907 by Whetzel, found at Tomhannock, June 15, causing a 5-10% loss. Control suggested is spraying with Bordeaux mixture.

Recent literature
Stevens, F. L. and J. G. Hall. Golden seal blight. In Diseases of Economic Plants, 1917: 240. The McMillan Co., 1917.
"Blight (Alternaria sp.) spots occur upon the leaves. The disease seems to be identical with that of ginseng."

Blight caused by Botrytis sp.
New York, 1918.
Connecticut - found in 1919 in cultivated beds. (Clinton)
" - found in 1920 at Mt. Carmel. New to state, causing more or less injury, found also on ginseng. (Clinton)
Maryland - (Fowler)
Indiana - reported September 7, 1921. (Gardner)
Washington - reported in 1921. (Dana)

Recent literature
Whetzel, Herbert Hice. The Botrytis blight of golden seal. (Abstract) Phytopath. 8: 75-76. F. 1918.

Fusarium wilt caused by Fusarium sp.
Ohio - new disease in state. Reported August 7, 1914 from Monroe County. Soil sterilization reported as control measure. (Selby)
Illinois - noted for the first time in state in 1911. Caused a 50-75% injury locally in Schuyler County.

Root knot caused by Heterodera radicicola (Greef.) Mull
Ohio - first known occurrence in the state August 7, 1914. Soil steaming suggested as treatment.

Recent literature
McClintock, J. A. Is golden seal resistant to root knot nematode? Phytopath. 4: 33. no. 1. Feb. 1914.

Mosaic - cause unknown

Connecticut - reported in 1920 as a new disease for the state; as yet not prevalent; found June 7 at Mt. Carmel.

Leaf scorch

Michigan - in 1913 about 2% injury occurred ranging through the central western and southern counties. (Coons)

Unknown root rot was reported in 1913 by G. H. Coons from Michigan. It caused a rotting of the root fibers and of the main root up to the crown.

HELIANTHUS spp.

Rust caused by Coleosporium helianthi (Schw.) Arth.

Distribution in the United States as reported by Hedgcock, G. G. and N. Rex Hunt. Notes on some species of Coleosporium - I. Mycologia 14: 244-257. Pl. 20-21. Sept. 1922.

Helianthus australis: North Carolina
H. decapetalus: New York, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Tennessee and Indiana.
H. divaricatus: Pennsylvania, District of Columbia, Virginia, North Carolina, Georgia and Tennessee.
H. doroconoides: Ohio and Minnesota
H. eggertii: Tennessee
H. giganteus: New York, Pennsylvania, West Virginia, Alabama and Mississippi.
H. glaucus: Tennessee and Georgia
H. grosseserratus: West Virginia and North Carolina
H. microcephalus: Virginia, North Carolina, South Carolina, Georgia, Alabama and Tennessee
H. occidentalis: Louisiana
H. saxicola: Georgia
H. strumosus: Alabama
H. tuberosus: Virginia, South Carolina and Alabama

Rust caused by Puccinia helianthi Schw.

Literature

Maneval, W. E. Germination of teliospores of rust at Columbia, Mo. Phytopath. 12: 471-488. Oct., 1922. Literature cited: p. 487-488.

HEUCHERA GLABRA

Puccinia heucherae (S.) Diet.

Alaska - Juneau, Aug. 6. Coll. N. E. Stevens. (PHN5)

HIPPEASTRUM JOHNSONII

Mosaic caused by intracellular bodies. McKinney, H. H., Sophia H. Eckerson, and R. W. Webb. Phytopath. (Abst.) 13: 41. Jan. 1923. no. 1. (Cooperative investigations by Wis. Agr. Exp. Sta. and Cereal Investigations, B. P. I., U. S. Dept. Agr.)

HUMULUS LUPULUS L. (Hop)

Downy mildew caused by Pseudoperonospora humuli (Miyabe & Takah.) Wilson = (Plasmopora humuli Miyabe & Takah.)

Wisconsin - Dr. Davis collected the fungus in 1922 at Edgerton, Rock County and believes it to be indigenous. (Vaughan)

Canker caused by Fusarium parasiticum Tub.

Literature

Salmon, E. S. and H. Wormald. Hop "Canker" or growing-off." Jour. Min. Agr. Gt. Brit. 29: 354-359. 1922.

HUMULUS sp. (Hop)

Mosaic, cause not given

Literature

Salmon, E. S. The "Mosaic" disease of the hop. Jour. Min. Agr. Gt. Brit. 29: 927-934. pl. Ja. 1923.

Summary of article as follows:

Two diseases of hop in England apparently belonging to virus group - "nettlehead" and mosaic. The former is less important. Article deals with mosaic.

Disease spread by means of cuttings taken from affected plants at a time when these are still apparently healthy.

Mildew caused by Sphaerotheca humuli (DC.) Burr.

Literature

Horton, E. and E. S. Salmon. The fungicidal properties of certain spray fluids III. Journ. Agr. Sci. 12: 269-279. July. 1922. Bibliography: 279. The article gives the results of tests with several compounds on conidial stage of S. humuli on young hop leaves in the greenhouse.

INDIAN PAINT BRUSH (Castilleja angustifolium)

Western pine gall rust caused by Cronartium harknessii (Moore) Meinecke

Oregon - (Boyce)

KINNIKINNICK (Arctostaphylos uva - ursi)

Exobasidium vaccinii (Fckl.) Wor.

Oregon - aggregate damage to the host is slight. The causal organism causes the young shoots and leaves to be slightly deformed. (Boyce)

LABRADOR TEA (Ledum groenlandicum)

Leaf rust caused by Melampsoropsis ledicola (Pk.) Arth.

British Columbia - abundant but causes little injury. (Boyce)

Leaf rust caused by Melampsoropsis abietina (A. & S.) Arth.

British Columbia - rare; of little injury to host. (Boyce)

LIATRIS GRAMINIFOLIA (Blazing Star)
Clasterosporium laciniariae Arth.
New Jersey - Atlantic City, Aug. 20. Coll. E. K. Cash. (PHN5)

LIPPIA LANCEOLATA
Cercospora lippiae Ell. & Ev.
Virginia - Black Pond, July 12. Coll., A. E. Jenkins (PHN5)

LOTUS spp.
Synchytrium sp.

Literature
McMurphy, James. Notes on Synchytrium (Abst.) Phytopath. 12: 442. Sept. 1922.

LUDWIGIA ALTERNIFOLIUS
Septoria ludwigiae Cke.
Maryland - North Beach, Aug. 19. Coll. J. A. Stevenson and W. W. Diehl. (PHN5)

LUPINUS PERENNIS
Powdery mildew caused by *Erysiphe polygoni* DC.
Maryland - Riverside, July 1, Coll. A. E. Jenkins. (PHN 5)

LYCOPODIUM COMPLANATUM var. FLABELLIFORME
Didymella chamaecyparissi Rehm
Virginia - Fairfax County, Apr. 2. Coll. W. W. Diehl. (PHN5)

MANZANITA (Arctostaphylos manzanita)
Exobasidium vaccinii (Fckl.) Wor.
Oregon - the young shoots and leaves are slightly deformed by this fungus giving the appearance of small witches brooms. (Boyce)

Leaf rust caused by *Pucciniastrum sparsum* (Wint.) Ed. Fisch.
Oregon - causes little injury. (Boyce)

MONARDA FISTULOSA
Rust caused by *Puccinia menthae* Pers. var. *americana* Burr.

Literature
Maneval, W. E. Germination of teliospores of rusts at Columbia, Missouri. Phytopath. 12: 471-488. Oct. 1922. Literature cited. p. 487-488.

NYMPHAEA ODORATA
Sphaerella pontederiae Pk.
Virginia - Black Pond, Fairfax County, July 12. Coll. W. W. Diehl. (PHN5)

OENOTHERA sp.

Mildew caused by Erysiphe polygoni DC.

Literature

Klaphaak, P. J. & H. H. Bartlett. A preliminary notice of genetical studies of resistance to mildew in Oenothera. Amer. Journ. Bot. 9: 446-458. Oct. 1922. No. 8. Literature cited p. 457-458.

PARTHEMIUM INTEGRIFOLIUM

Rust caused by Coleosporium terebinthinaceae (Schw.) Arth.

According to Hedgcock, Geo. G. & N. Rex Hunt. Notes on some species of Coleosporium -I. Mycologia 14: 244-257. Pl. 20-21. Sept. 1922. This rust has been collected in Virginia, Tennessee, North Carolina, Georgia and Alabama.

PHYLLOSTACHYS sp.

Rust caused by Puccinia melanocephala Sydow

Florida - a specimen of this rust was sent in by O. F. Burger, May 25. It was collected at Jacksonville by the nursery inspector. Later, upon investigations, several places were revealed where the bamboo was affected by this rust. The Office of Foreign Plant Quarantines has several specimens of this disease from Brookville and also a collection from an estate near Gotha. The present known geographical distribution of the disease in the United States is Brookville, Jacksonville and Gotha, Florida. It also occurs in Asia. See North American Flora 75: 340.

PLANTAGO sp.

Leaf spot caused by Septoria sp.

Ohio - Wayne County. (Detmers)

PODOPHYLLUM PELTATUM

Phyllosticta podophylli Wint.

Illinois - Peters, May 25. Coll. J. F. Dickman. (PHN5)

POTENTILLA CANADENSIS

Rust caused by Phragmidium potentillae-canadensis Diet.

Literature

Maneval, W. E. Germination of teliospores of rusts at Columbia, Missouri. Phytopath. 12: 471-488. Oct. 1922. Literature cited p. 487-488.

PSORALEA LANCEOLATA.

Rust, cause undetermined.

Montana - on June 23 a rust was observed in Forsyth, Rosebud County, causing a 2% infection. (Christopher)

RHUS DIVERSILOBA

Septoria irregularis Pk. = (Phleospora irregulare (Pk.) Bul.)

Oregon - common; elevation 900 feet. (Boyce)

RHUS sp.

Septoria irregularis Pk.

California - (Boyce)

RIBES spp.

Rust caused by Cronartium ribicola Fischer

Connecticut - heavily infected. (Clinton)

New York - found along the extreme eastern border of the state. (Dickson)

Pennsylvania - found in four localities in Wayne County and one in Lackawanna. (McCubbin)

Rust caused by Puccinia ribis DC.

North Dakota - very abundant during 1922. (Weniger)

Nectria vulgaris Tode = (Tubercularia vulgaris Tode)

Oregon - elevation 200 feet. (Boyce)

RUBUS PARVIFLORUS

Rust caused by Phragmidium sp.

British Columbia - Salmon Arm (Dana) This report is included due to the occurrence of the rust near Washington State boundary.

RUELLA STREPENS

Rust caused by Puccinia ruelliae (B. & Br.) Lagh.

Literature

Maneval, W. E. Germination of teliospores of rusts at Columbia, Missouri. Phytopath. 12: 471-488. Oct. 1922. Literature cited p. 487-488.

SCIRPUS OCCIDENTALIS

Clasterosporium caricinum S.

Minnesota - Lake Shetek, Currie. July 24. T. P. Metcalf. (PHN5)

SEDUM PURPUREUM

Stem rot supposedly caused by a Phytophthora sp.

New York - the host grew on the College Farm until entirely killed out. The farmers write in for affected plants to transplant on their farms as they have been using the diseased plants for means of eradication on account of the organism spreading until its host is entirely eradicated. Many plants were sent out by the College during the past ten years for this purpose. (Chupp)

SILPHIUM spp.

Rust caused by Coleosporium terebinthinaceae (Schw.) Arth.

Collected in the United States and reported by Hedgcock, G. G. and N. Rex Hunt, in Notes on some Species of Coleosporium - I. Mycologia 14: 244-257. Pl. 20-21. Sept. 1921.

Silphium angustatum - South Carolina, Georgia and Alabama.
S. asperrimum - Texas.
S. asteriscus - North Carolina, South Carolina, Georgia and Louisiana.
S. compositum - Virginia, Tennessee, North Carolina, Georgia and Alabama.
S. dentatum - North Carolina, South Carolina and Georgia.
S. glabrum - Tennessee and Georgia.
S. gracile - Texas.
S. integrifolium - Georgia, Alabama, Mississippi, Louisiana, Arkansas, Indiana, Illinois and Missouri.
S. laciniatum - Iowa and Kansas.
S. laevigatum - Alabama.
S. pinnatifidum - Georgia.
S. terebinthinaceum - North Carolina, Indiana and Illinois.
S. trifoliatum - Virginia, North Carolina and Alabama.

SPIRAEA DOUGLASII Hook.

Cylindrosporium spiraeicolum Ell. & Ev.

Oregon - abundant; elevation 4100 feet. (Boyce)

TARAXACUM spp.

Rust caused by Puccinii taraxaci (Rabent.) Plowr.

Distribution in the United States as reported to the Plant Disease Survey - New Jersey, Pennsylvania, Maryland, West Virginia, Indiana, Minnesota, Missouri, Nebraska, Colorado, Utah, Indiana and Washington.

Powdery mildew caused by Sphaerotheca humuli (DC) Burr. var. fuliginea (Schlecht.) Salm.

Distribution in the United States as reported to the Plant Disease Survey: Connecticut, Ohio, Minnesota and Idaho.

The following extract from Salmon's monograph of the Erysiphaceae, p. 60, may be of value to those who are interested in hop culture:

> "Whitehead (C. Whitehead. Hop Cultivation L. C. 4: 246-249, 1893) recommends as a preventive method against the hop mildew the removal of all other plants which are the hosts of the fungus from the hop gardens, and mentions especially Taraxacum, Senecio vulgaris and other composites and Plantago. These host plants of the old aggregate species 'S. castagnei' all belong, however, to the form now separated as S. humuli var. fuliginea, while the hop mildew is caused by the type of S. humuli."

Leaf spot caused by Ramularia taraxaci Karst.
Reported former years from Minnesota and Idaho.

THALICTRUM DIOCIUM (Early meadow-rue)
Rust caused by Puccinia agropyri Ell. & Ev. = (P. clematidis Lagh.)
Minnesota - Hennepin County. (Sect. Pl. Path.)

CORYMBOSUM
VACCINIUM ~~CORYBOSUM~~ (Huckleberry)
Tar spot caused by Rhytisma vaccinii Fr.
Pennsylvania - very common in Bear Meadows. (Overholts)

VACCINIUM spp. (Huckleberry)
Leaf rust caused by Pucciniastrum myrtilli. (Schum.) Arth.
Connecticut - more prevalent. (Clinton)
Idaho - causes little damage; is found only occasionally. (Boyce)

VACCINIUM sp. (Blueberry)
Rust caused by Pucciniastrum myrtilli (Schum.) Arth.
Connecticut - (Clinton)

Rust caused by Calyptospora goeppertiana Jul. Kuehn.
Connecticut - (Clinton)

VERBESINA spp.
Rust caused by Coleosporium sp.

Recent literature
Hedgcock, Geo. G. & N. Rex Hunt. Notes on some species of Coleosporium - I. Mycologia 14: 244-257. Pl. 20-21. Sept. 1922.

VICIA AMERICANA
Powdery mildew caused by Erysiphe polygoni DC. = (E. communis)
Montana - (Childs, V. K.)

VITIS QUADRANGULARIS
Schizonella colemani Qyngar & Marasimhan

Recent literature
Parthasarathy Lyengar, M. O. and Marasimhan, M. J. Phytopath. 12: 435-438. illus. Sept. 1922. no. 9.

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